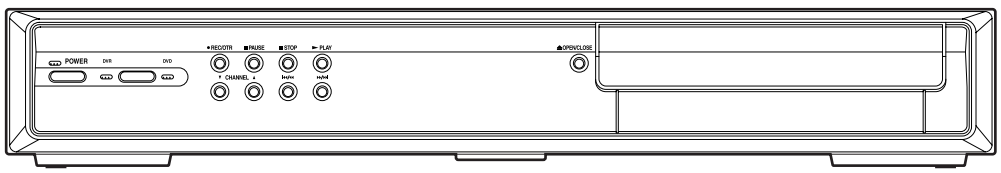
Symphonic

SERVICE MANUAL

DVR(HDD) with DVD Player

CSHP80G



IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

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SPECIFICATIONS

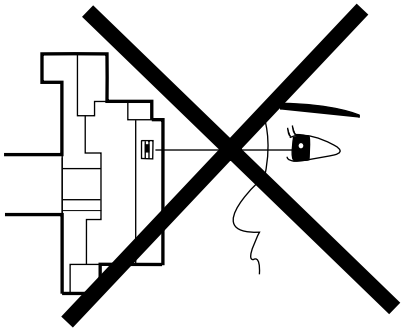
ITEM	
General	
DVR	Internal 3.5 inch HDD 80 GB
Power consumption	30W (standby: 2.5W)
Recording	
Video recording format Sampling frequency Compression format	 13.5MHz MPEG
Audio recording format Sampling frequency Compression format	 48kHz Dolby Digital
Tuner	
Receivable channels VHF UHF CATV	 2-13ch 14-69ch C1-C125ch
Input/Output	
Video input Input level Jacks	Input 1 (rear) 1 Vp-p (75Ω) RCA jack
S-Video input Y (Iuminance) - Input level C (color) - Input level Jacks	Input 1 (rear) 1 Vp-p (75Ω) 286 mVp-p (75Ω) 4 pin mini DIN
Audio input During audio input Jacks	Input 1 (rear) 2V rms (47kΩ) RCA jacks
Component video output Output level Jacks	 Y: 1.0 Vp-p (75Ω), P_B/C_B, P_R/C_R: 0.7 Vp-p (75Ω) RCA jacks
Video output Output level Jacks	 1 Vp-p (75Ω) RCA jack
S-Video output Y (Iuminance) - Output level C (color) - Output level Jack	 1 Vp-p (75Ω) 286 mVp-p (75Ω) 4 pin mini DIN
Audio output During audio output Jacks	Output 1,2 L/R 2V rms (47kΩ) RCA jacks
Digital audio output Output level Jack	 500 mVp-p (75Ω) RCA jack
VHF/UHF antenna input/output terminal	 VHF/UHF set 75Ω

NOTES:

1. All Items are measured without pre-emphasis unless otherwise specified.
2. Power supply: AC120 V 60 Hz
3 Ambient temperature: 5 °C ~ 40 °C

LASER BEAM SAFETY PRECAUTIONS

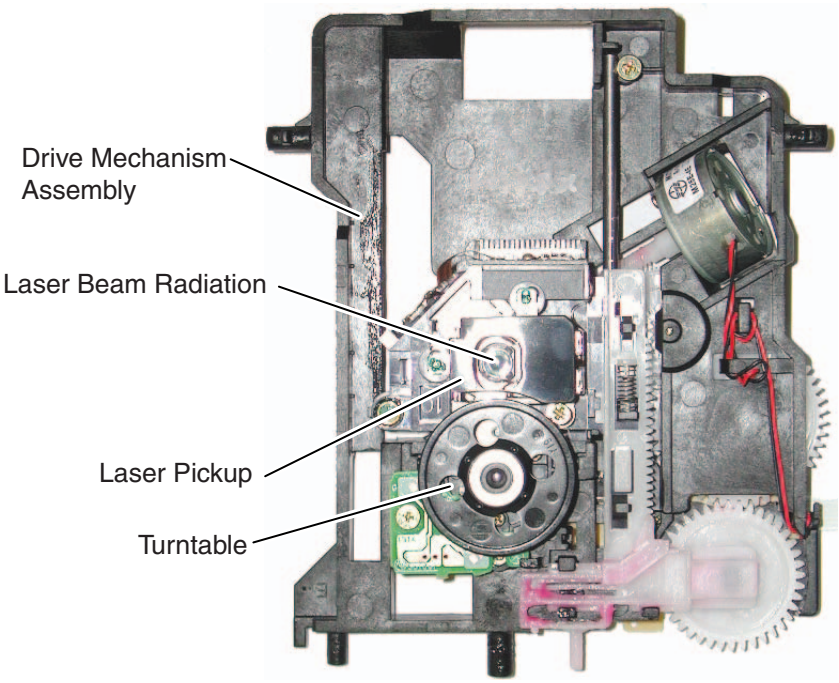
This DVD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30 cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

CAUTION: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



CAUTION
LASER RADIATION
WHEN OPEN. DO NOT
STARE INTO BEAM.

Location: Top of DVD mechanism.

IMPORTANT SAFETY PRECAUTIONS

Product Safety Notice

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a ⚠ on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are carefully inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

A. Parts identified by the ⚠ symbol are critical for safety. Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements. Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:
1) Wires covered with PVC tubing
2) Double insulated wires
3) High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:
1) Insulation tape
2) PVC tubing
3) Spacers
4) Insulators for transistors

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.).

G. Check that replaced wires do not contact sharp edges or pointed parts.

H. When a power cord has been replaced, check that 5 - 6 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

K. Crimp type wire connector
The power transformer uses crimp type connectors which connect the power cord and the primary side of the transformer. When replacing the transformer, follow these steps carefully and precisely to prevent shock hazards.
Replacement procedure
1) Remove the old connector by cutting the wires at a point close to the connector.
Important: Do not re-use a connector. (Discard it.)
2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
4) Use a crimping tool to crimp the metal sleeve at its center. Be sure to crimp fully to the complete closure of the tool.

L. When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC outlet.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts, and wires have been returned to their original positions. Afterwards, do the following tests and confirm the specified values to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1: Ratings for selected area

AC Line Voltage	Clearance Distance (d), (d')
120 V	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

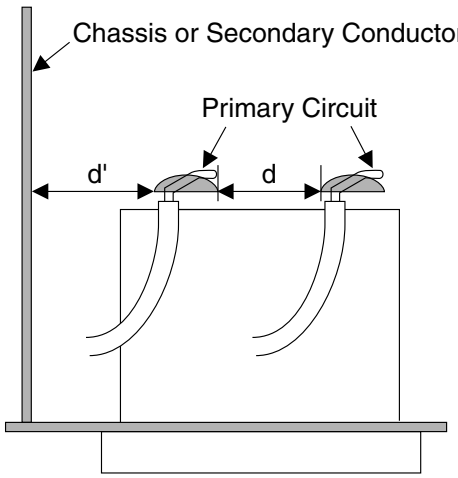


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

Measuring Method (Power ON):

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across the terminals of load Z. See Fig. 2 and the following table.

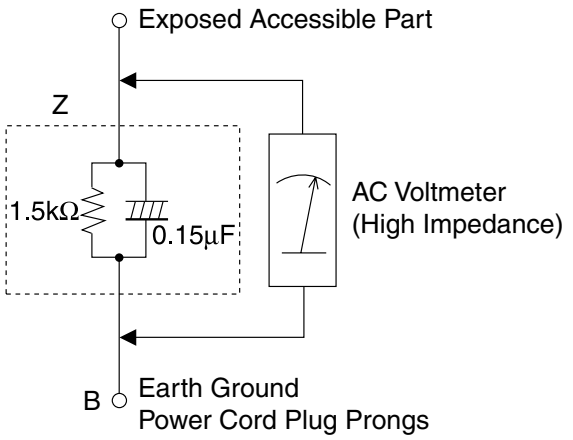


Fig. 2

Table 2: Leakage current ratings for selected areas

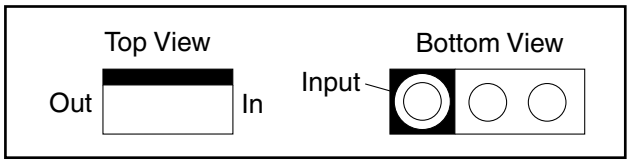
AC Line Voltage	Load Z	Leakage Current (i)	Earth Ground (B) to:
120 V	0.15 μF CAP. & 1.5 kΩ RES. Connected in parallel	i ≤ 0.5 mA Peak	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

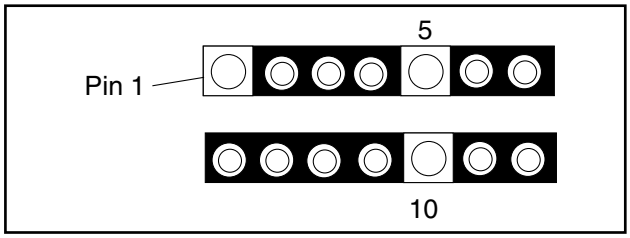
STANDARD NOTES FOR SERVICING

Circuit Board Indications

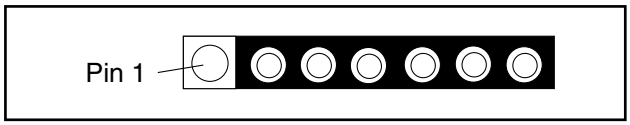
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



2. For other ICs, pin 1 and every fifth pin are indicated as shown.

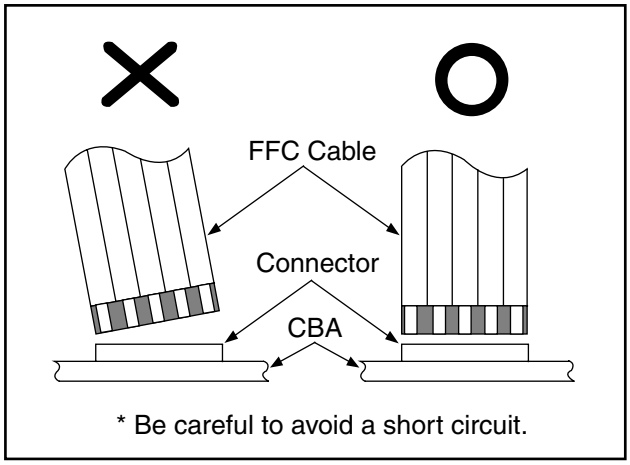


3. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

1. When you connect or disconnect the FFC (Flexible Foil Connector) cable, be sure to first disconnect the AC cord.
2. FFC (Flexible Foil Connector) cable should be inserted parallel into the connector, not at an angle.



Pb (Lead) Free Solder

When soldering, be sure to use the Pb free solder.

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

1. Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

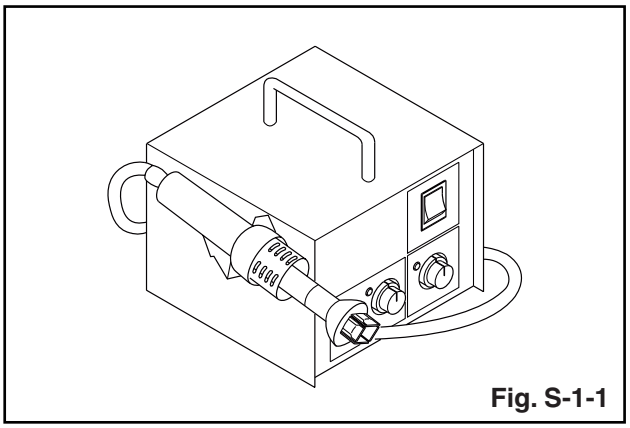


Fig. S-1-1

2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

CAUTION:

1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

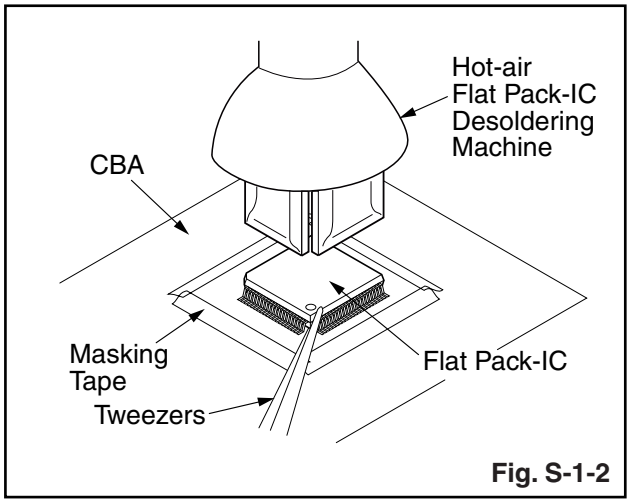


Fig. S-1-2

With Soldering Iron:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

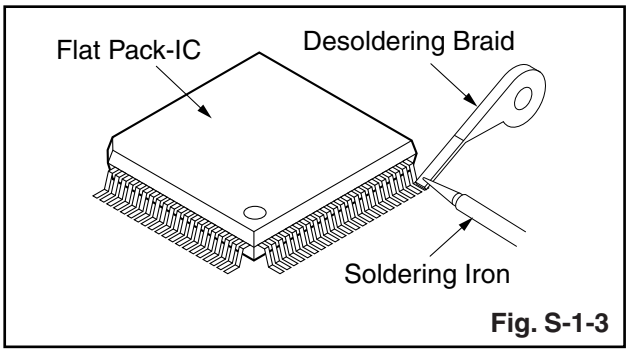


Fig. S-1-3

2. Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

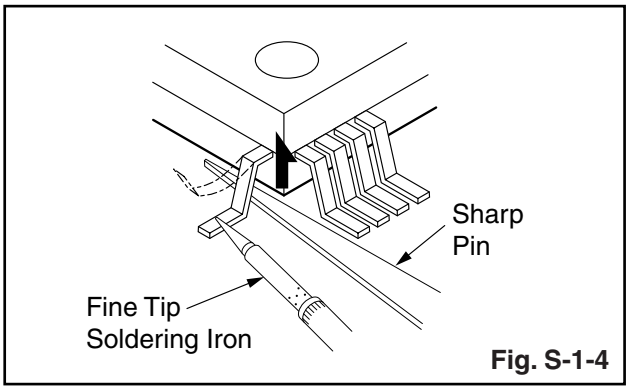


Fig. S-1-4

3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note: When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.

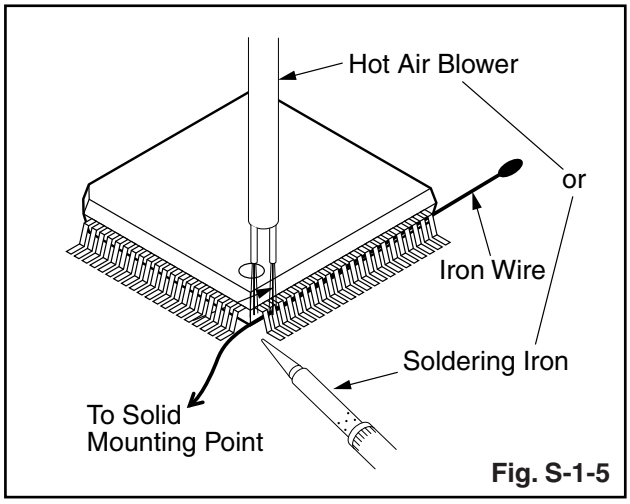


Fig. S-1-5

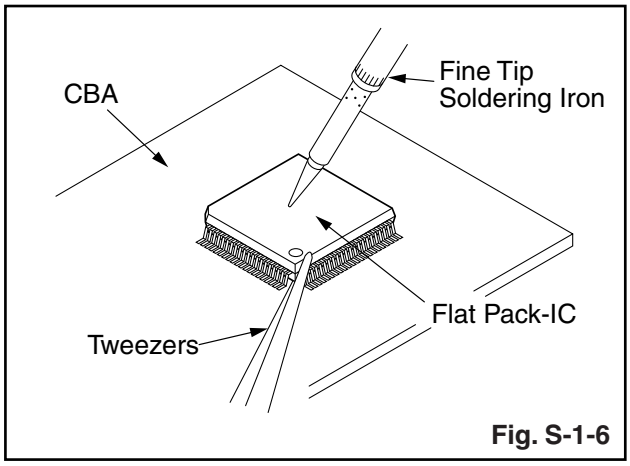


Fig. S-1-6

2. Installation

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

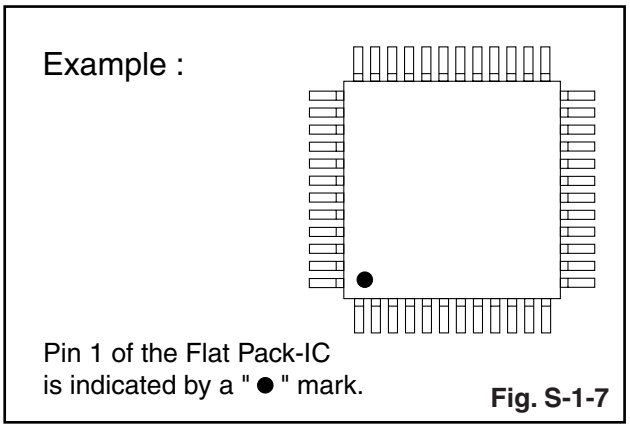


Fig. S-1-7

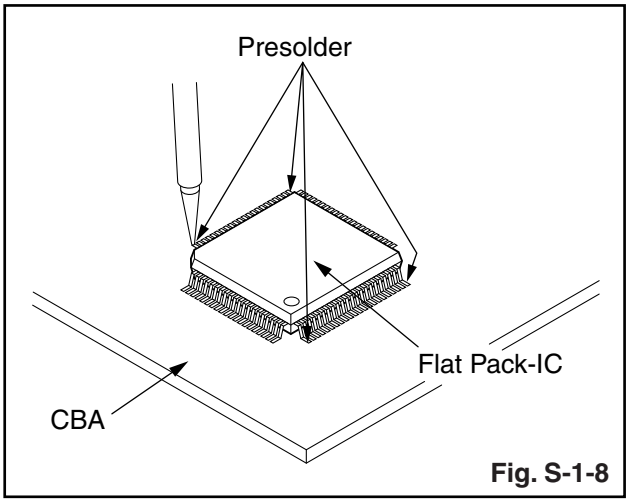


Fig. S-1-8

Instructions for Handling Semi-conductors

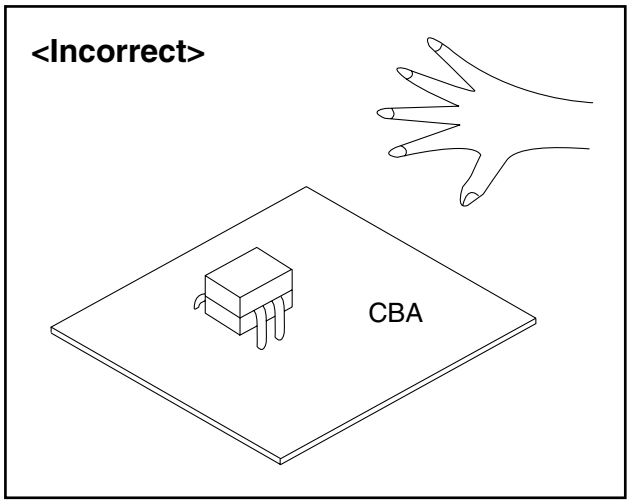
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

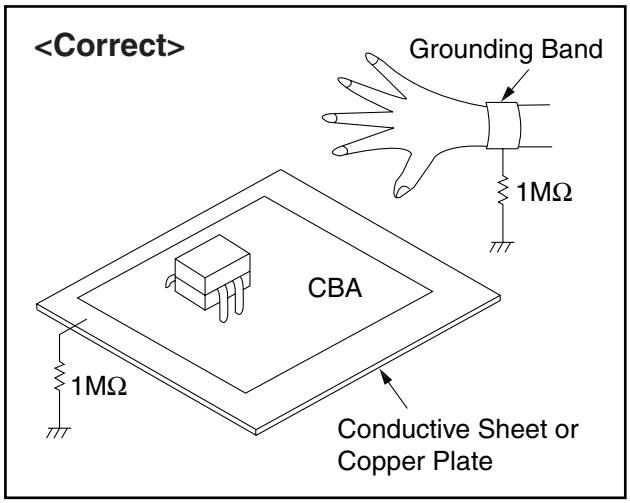
1. Ground for Human Body

Be sure to wear a grounding band (1 MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding (1 MΩ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.





HANDLING PRECAUTIONS FOR HDD

CAUTION:

1. SHOCK

a. Exposing HDD to shock may be the biggest damaging factor. Please note that HDD is easily damaged even if dropped from any height. Be sure to place HDD on a shock-absorbent mat. Also, be careful when transporting HDD.

b. Be careful not to subject HDD to any shock when tightening screws for HDD replacement. **(Tighten screws manually, not with an electric driver.)**

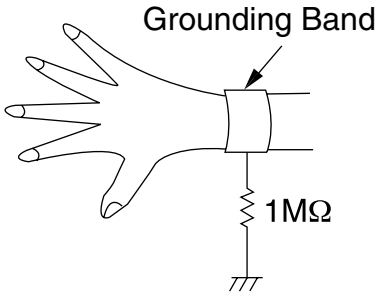
2. MOISTURE

a. Moisture may also be a damaging factor. HDD is semiclosed style. Sudden changes in ambient temperature may cause moisture to form. Monitor temperature and do not allow moisture to form on the media surface. Also, when opening HDD package, do so only after package is at ambient temperature.

b. After replacing HDD, leave it to reach room temperature (about 2 hours) for preventing dew internal condensation, and then work necessary task such as operation check.

3. STATIC ELECTRICITY

a. After removing HDD or taking replacement HDD out of the protective bag (the replacement HDD is packed in a protective bag), place HDD on a conductive surface. A grounding band should be worn when handling.



Both the conductive surface and grounding band should be grounded.

b. Make sure that HDD is placed on main unit completely and then let go of it, when assembling.

c. Do not put HDD on a packing bag. (for preventing electrostatic damage)

4. OTHERS

a. Be careful so as not to do the followings. Otherwise, HDD might be damaged.

- **DO NOT** disassemble HDD.
- When handling HDD, be sure to hold both sides securely.

b. HDD should be stored, packed in the protective bag, in suitable surroundings (i.e., no extreme changes in temperature to avoid condensation).

c. When transporting HDD, be sure to use the exclusive packing case (the replacement HDD carton).

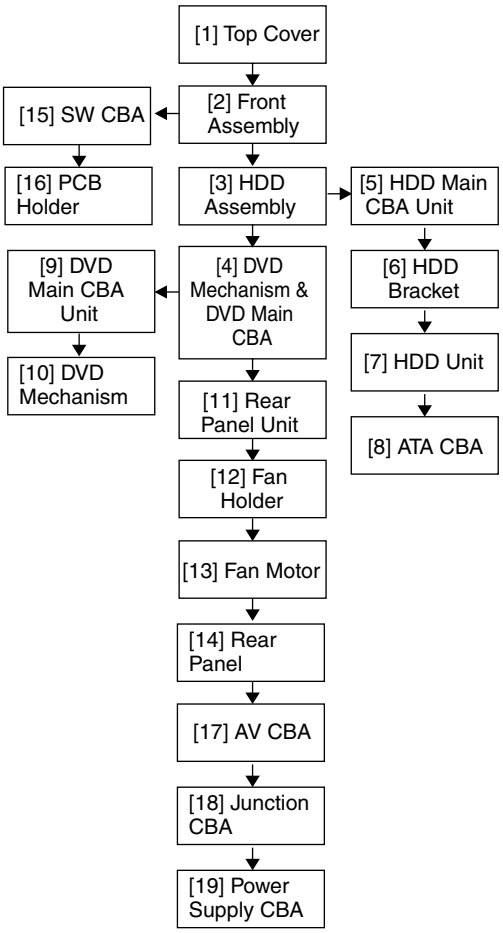
d. Do not stack HDDs.

e. Do not place vertically because HDD is unstable and easy to fall.

CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route, and dress the cables as they were originally.



2. Disassembly Method

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	Note
[1]	Top Cover	D1	7(S-1)	---
[2]	Front Assembly	D2	*6(L-1), *3(L-2)	1
[3]	HDD Assembly	D3	4(S-2), *CN501, *CN601, *CN1071	---
[4]	DVD Mechanism & DVD Main CBA	D3	4(S-3), *CN401, *CN601	---
[5]	HDD Main CBA Unit	D4	4(S-4), *CN601	---
[6]	HDD Bracket	D4	4(S-5)	---
[7]	HDD Unit	D4	----------	2
[8]	ATA CBA	D4	*CN3001, *CN3002	---
[9]	DVD Main CBA Unit	D5	2(S-6), *CN201, *CN301, Earth Plate	3 4
[10]	DVD Mechanism	D5	----------	---
[11]	Rear Panel Unit	D6	6(S-7), 4(S-8), *CN1052	---
[12]	Fan Holder	D7	2(S-9)	---
[13]	Fan Motor	D7	----------	---
[14]	Rear Panel	D7	----------	---
[15]	SW CBA	D8	2(S-10), *CN1503	---
[16]	PCB Holder	D8	2(S-11)	---
[17]	AV CBA	D9	3(S-12), *CN2001	---
[18]	Junction CBA	D9	*Desolder	---
[19]	Power Supply CBA	D9	4(S-13)	---
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)

Note:

(1): Identification (location) No. of parts in the figures

(2): Name of the part

(3): Figure Number for reference

(4): Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, L=Locking Tab, S=Screw, CN=Connector
*=Unhook, Unlock, Release, Unplug, or Desolder
e.g. 6(S-1) = six Screws (S-1),
5(L-1) = five Locking Tabs (L-1)

(5): Refer to “Reference Notes.”

Reference Notes

1. Locking Tabs (L-1) and (L-2) are fragile. Be careful not to break them.
   1-1. Release four Locking Tabs (L-1).
   1-2. Release three Locking Tabs (L-2) and remove the Front Assembly.
2. Whenever you have replaced the HDD unit, initialize the HDD unit. To initialize the HDD unit, perform the following.
   2-1. To put the DVR with DVD Player into the HDD mode, press the [DVR] button on the remote control unit.
   2-2. To put the DVR with DVD Player into the self-check mode, after pressing [ANGLE] button, press the [3], [6], and [9] buttons on the remote control in that order within three seconds.
   2-3. Press [ENTER] button. The DVR with DVD Player is initialized and the power is turned off automatically after two seconds.
3. **CAUTION:** Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc., during unpacking or repair work.
   To avoid damage of pickup follow next procedures.
   3-1. Short the three short lands of FPC cable with solder before removing the FFC cable (CN201) from it. If you disconnect the FFC cable (CN201), the laser diode of pickup will be destroyed. (Fig. D5)
   3-2. Disconnect Connectors (CN301). Remove two Screws (S-6) with the Earth Plate and remove the DVD Main CBA Unit. (Fig. D5)
4. **CAUTION:** When reassembling, confirm the FFC cable (CN201) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. D5)

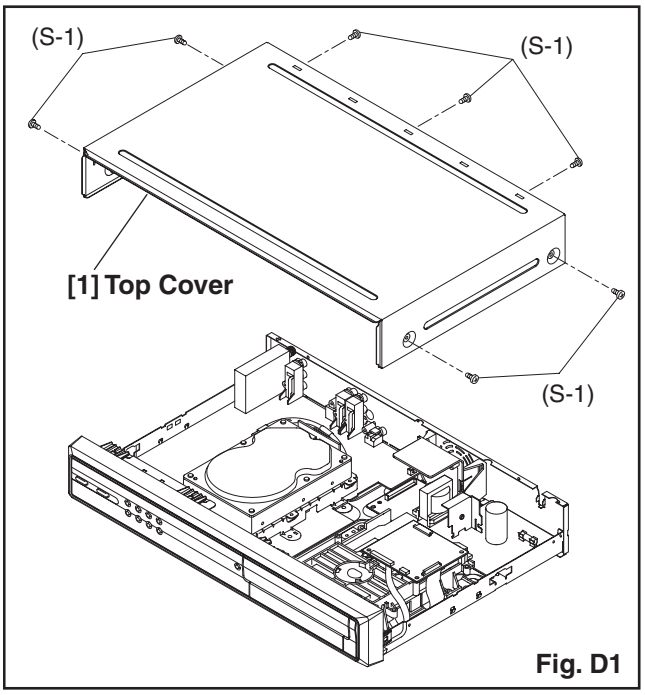


Fig. D1

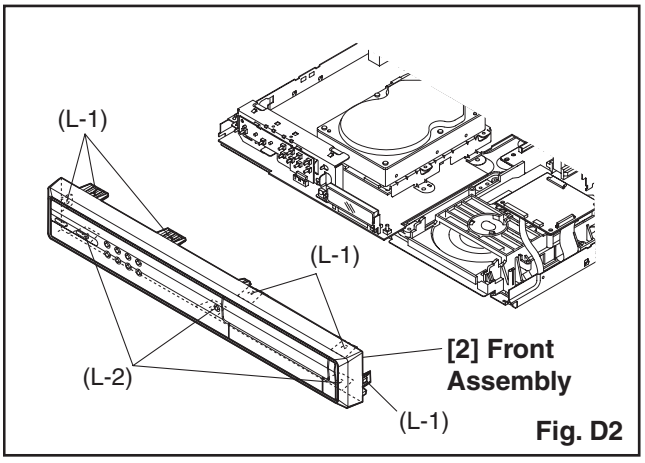


Fig. D2

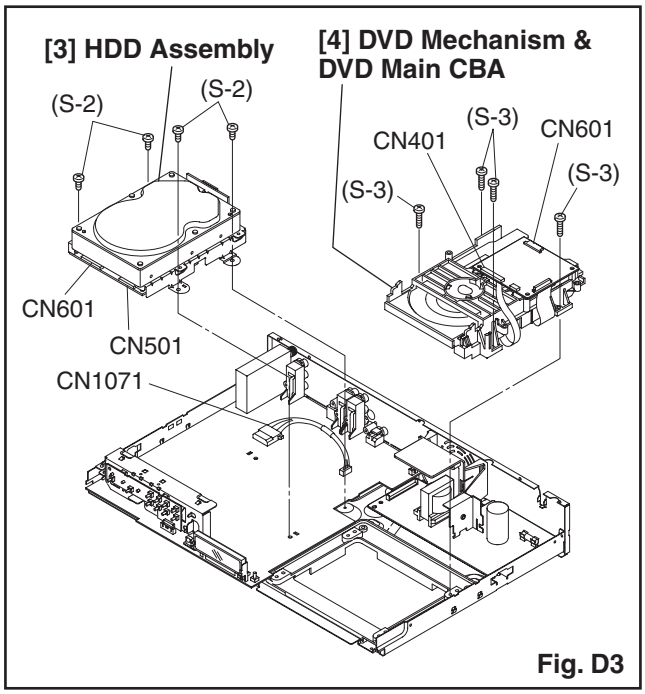


Fig. D3

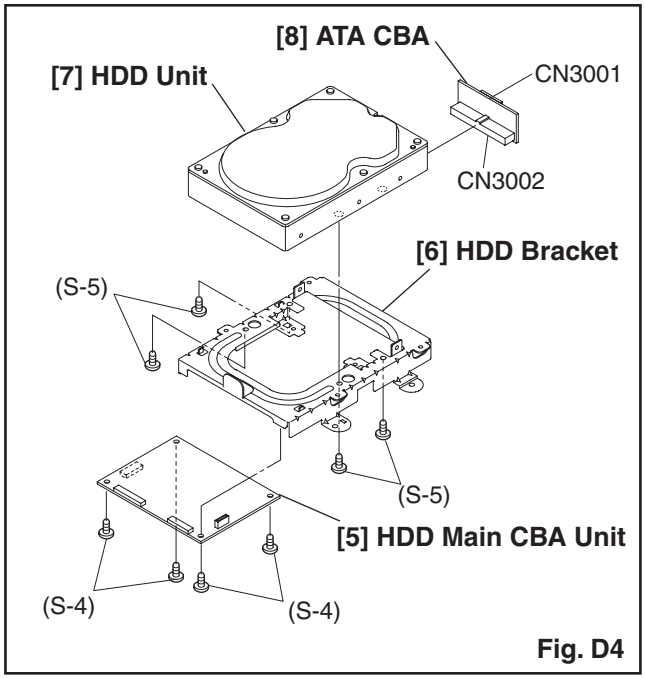


Fig. D4

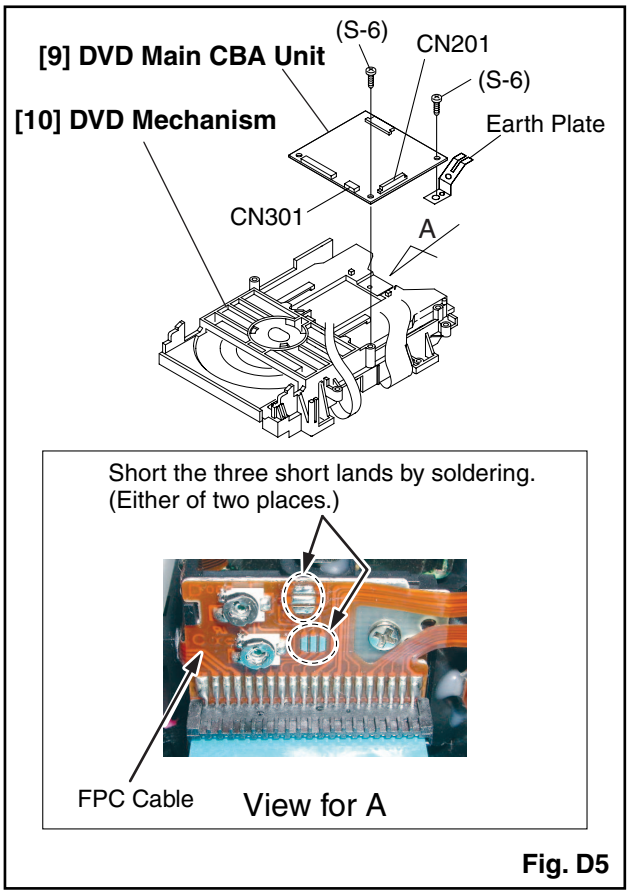


Fig. D5

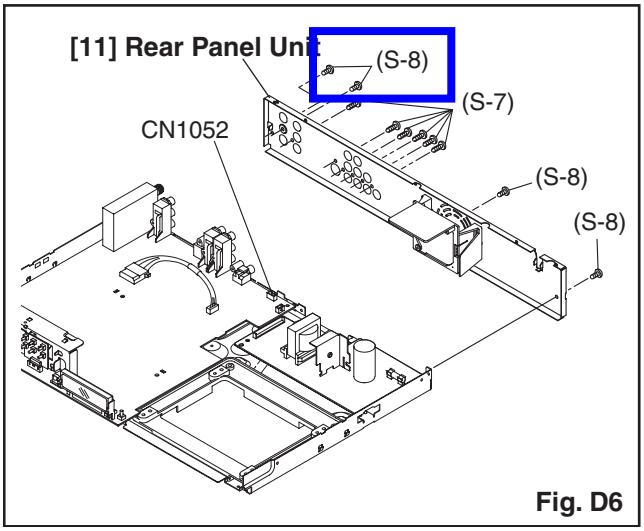


Fig. D6

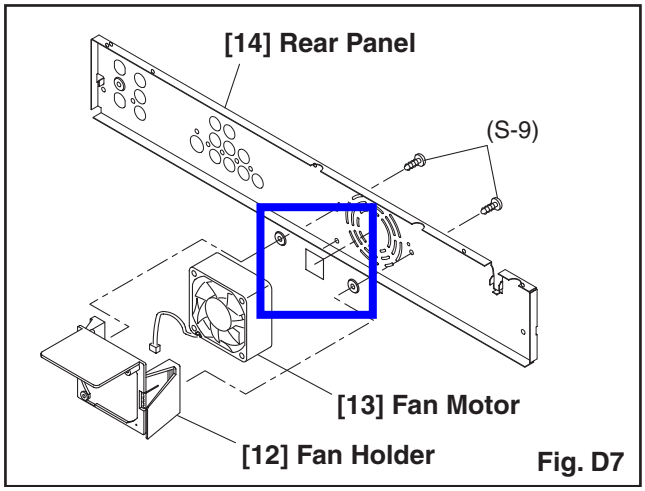


Fig. D7

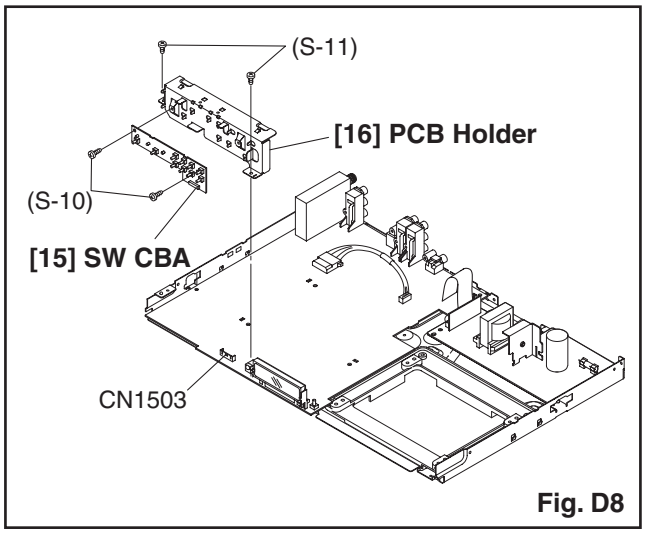


Fig. D8

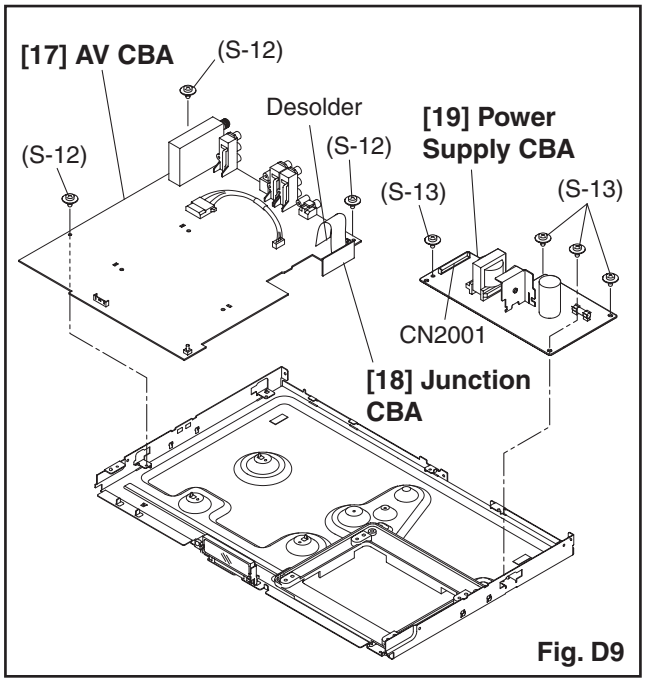
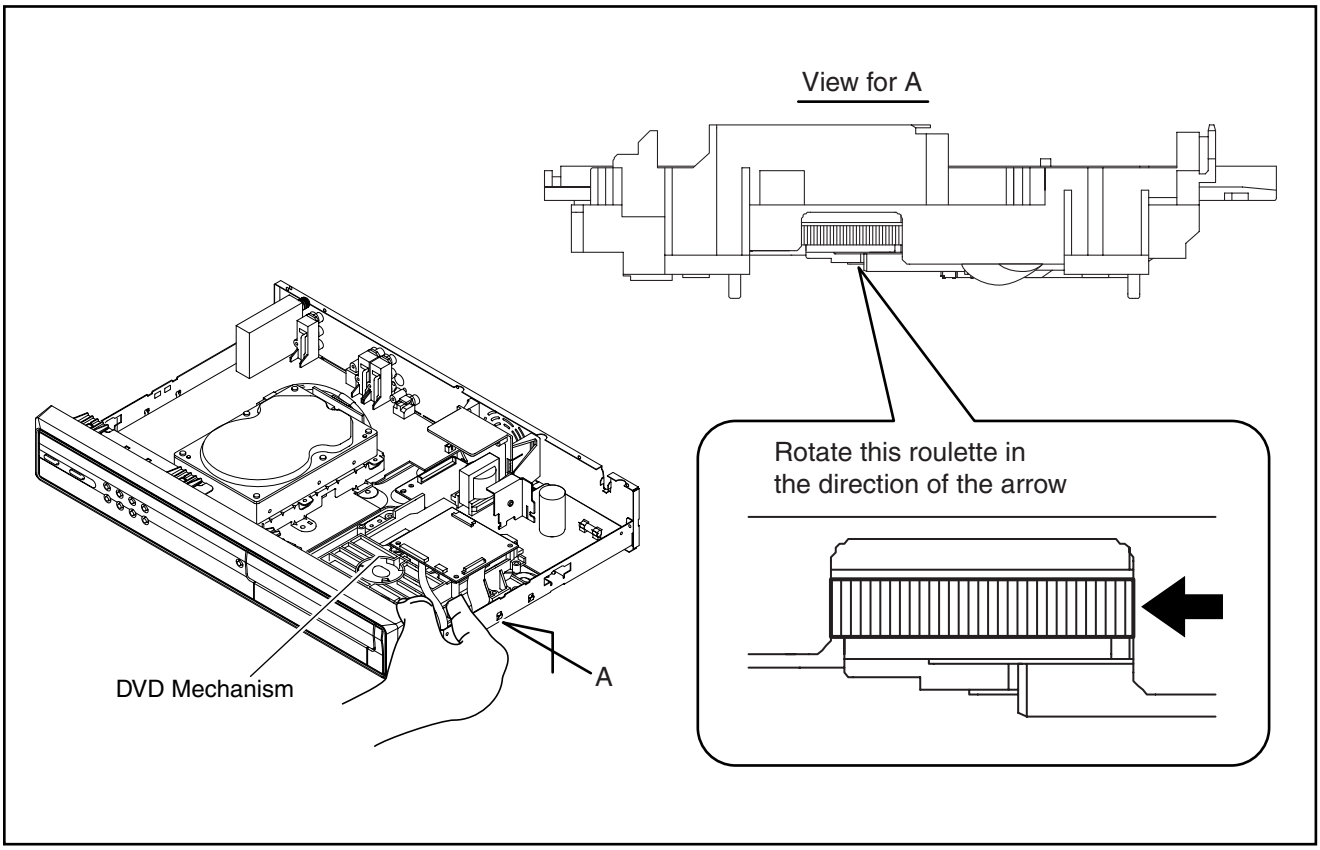


Fig. D9

3. How to Eject Manually

1. Remove the Top Cover.
2. Rotate the gear in the direction of the arrow manually as shown below.



HOW TO SELF-CHECK AND INITIALIZE THE DVR with DVD Player

1. Turn on the DVR with DVD Player recorder.
2. To put the DVR with DVD Player recorder into the HDD mode, press [DVR] on the remote control unit.
3. To put the DVR with DVD Player recorder into the self-check mode, after pressing [ANGLE] button, press the [3], [6], and [9] buttons on the remote control in that order within three seconds.
   Fig. a appears on the screen and all LEDs light.

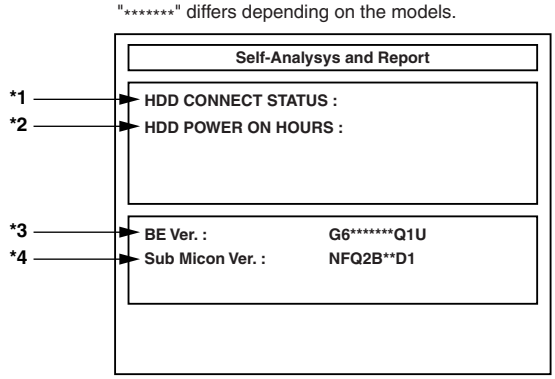


Fig. a: Self-Check Mode Screen

Table 1: Description of Fig. a

INDICATION	DESCRIPTION
HDD CONNECT STATUS (*1)	Connecting Condition of HDD
HDD POWER ON HOURS (*2)	Value of HDD power on hours obtained from S.M.A.R.T. command. (If not obtainable, value of HDD power on hours is “0”.) Value in parentheses is the factory setting value. (If no setting, the value is “0”.)
BE Ver. (*3)	B/E version
Sub Micon Ver. (*4)	Sub micro controller version

4. Upon the self-check completion, Fig. b appears on the screen.

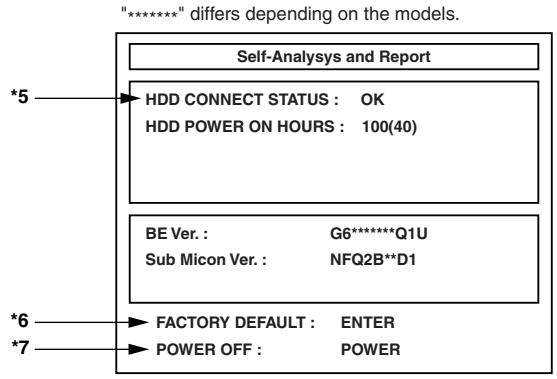


Fig. b: Screen of Finishing Self-Check Mode

Table 2: Indication of HDD self-check (*5)

INDICATION	DESCRIPTION
OK	Connection of HDD is normal.
NOT FOUND	HDD drive cannot be found.
CABLE ERROR	FFC cable between the ATA CBA and the HDD drive is not connected correctly.

Table 3: Available button in self-check mode

BUTTON	DESCRIPTION
ENTER (*6)	Initialize (only when the self-check mode is complete)
POWER (*7)	Turn the power off (when the self-check mode is complete)
OTHER	Not available

5. When the self-check mode is complete, press [POWER] button to turn the power off.
   When initializing the DVR with DVD Player recorder, press [ENTER] button. Fig. c appears on the screen.
   After two seconds, the power is turned off automatically.

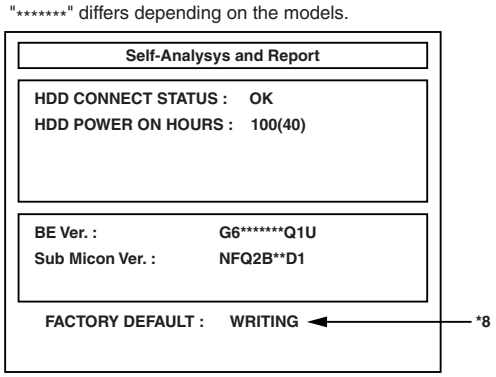

"*******" differs depending on the models.
Self-Analysys and Report
HDD CONNECT STATUS : OK
HDD POWER ON HOURS : 100(40)
BE Ver. : G6*******Q1U
Sub Micon Ver. : NFQ2B**D1
FACTORY DEFAULT : WRITING
*8

Fig. c: Initialize Mode Screen

Table 4: Description of *8 in Fig. c

INDICATION	DESCRIPTION
ENTER	Initialization preparation is complete.
WRITING	Initializing
OK	Initializing is finished normally.

NOTE: When initializing, “Current Clock”, “Setup Changing Item”, “Channel Setup”, “Area Setup”, “Program” and “HDD Contents” are initialized.

FIRMWARE RENEWAL MODE

<DVD Section>

1. Turn the power on and remove the disc on the tray.
2. To put the unit into version up mode, press [DVD], [9], [8], [7], [6], and [SEARCH] buttons on the remote control unit in this order. The tray will open automatically.
   Fig. a appears on the screen and Fig. b appears on the VFD.

"*******" differ depending on the models.

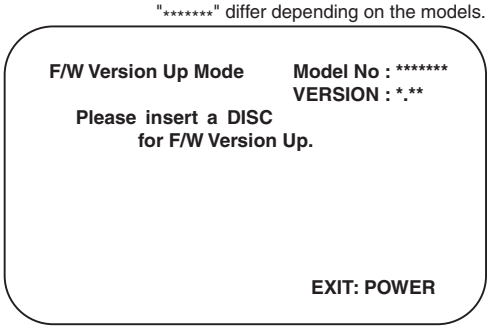


Fig. a Version Up Mode Screen

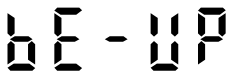


Fig. b VFD in Version Up Mode

   The unit can also enter the version up mode with the tray open. In this case, Fig. a will be shown on the screen while the tray is open.
3. Load the disc for version up.
4. The unit enters the F/W version up mode automatically. Fig. c appears on the screen and Fig. d appears on the VFD. If you enter the F/W for different models, “Disc Error” will appear on the screen, then the tray will open automatically.

"*******" differ depending on the models.

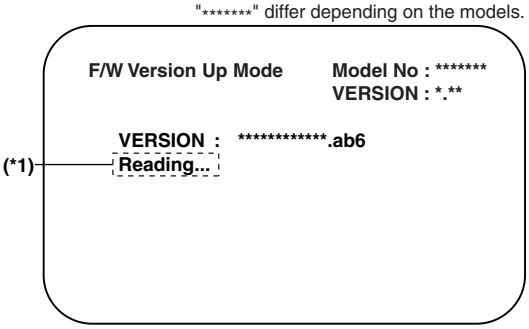


Fig. c Programming Mode Screen

Fig. d VFD in Programming Mode (Example)

   The appearance shown in (*1) of Fig. c is described as follows:

No.	Appearance	State
1	Reading...	Sending files into the memory
2	Erasing...	Erasing previous version data
3	Programming...	Writing new version data

5. After programming is finished, the tray opens automatically. Fig. e appears on the screen and the checksum in (*2) of Fig. e appears on the VFD (Fig. f).

"*******" differ depending on the models.

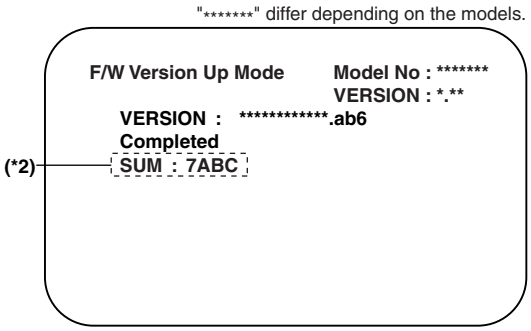


Fig. e Completed Program Mode Screen

Fig. f VFD upon Finishing the Programming Mode (Example)

   At this time, no button is available.
6. Remove the disc on the tray.
7. Unplug the AC cord from the AC outlet. Then plug it again.
8. Turn the power on by pressing the [POWER] button and the tray will close.
9. Press [DVD], [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order. Fig. g appears on the screen.

"*******" differ depending on the models.

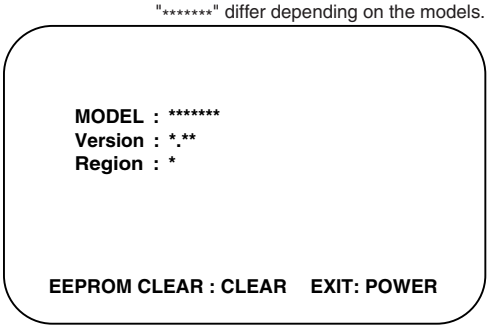


Fig. g

10. Press [CLEAR] button on the remote control unit. Fig. h appears on the screen.

"*******" differ depending on the models.

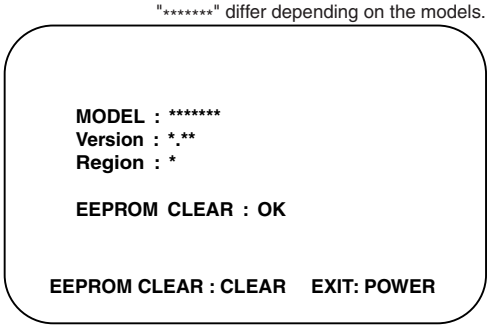


Fig. h

When “OK” appears on the screen, the factory default will be set. Then the firmware renewal mode is complete.

11. To exit this mode, press [POWER] button.

<HDD Section>

1. Items necessary to use G6 Serial Firm Up Software:

G6_SerialFwUp_Ver002.EXE

Save the above file into the local folder.

2. To change to the maintenance mode of the DVR with DVD Player:

1. Connect the DVR with DVD Player and a PC in serial.
2. Change the DVR with DVD Player to maintenance mode.
3. Using the [CHANNEL] up/down buttons on the remote control, select “4:SERIAL UPDATE” and press [ENTER] on the remote control.
4. When “Please Press Enter Key” is displayed, press [ENTER] on the remote control.
5. When the progress bar is displayed, the change is complete on the DVR with DVD Player.

3. To start up the G6 Serial Firm Up Software:

Com 1 has been selected as the default for the G6 Serial Firm Up Software.

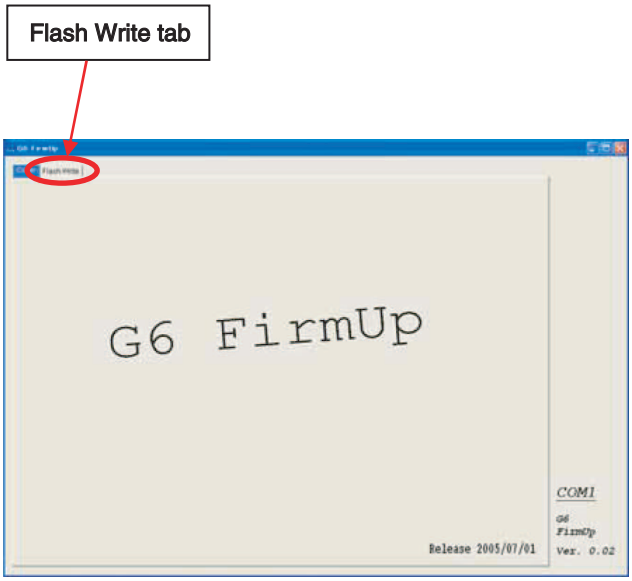


Fig. i

4. The progression of the Overwriting process

1. Select the Flash Write tab (See Fig. i), and press the “File Open” button.

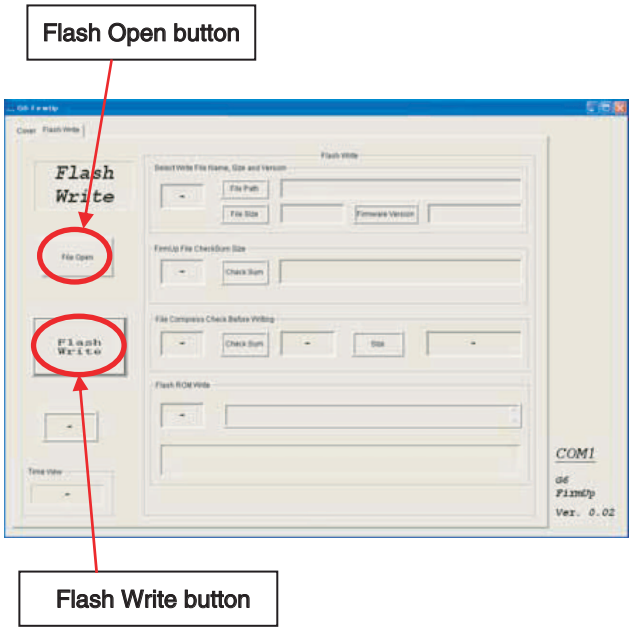


Fig. j

2. When the “File Open” button is pressed, a file selection screen (as shown below) will appear. Select the “BIN file” to use for overwriting.

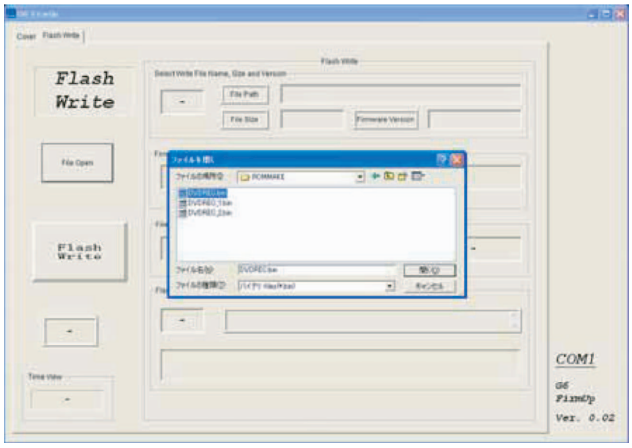


Fig. k

3. After the file selection is complete, press the “Flash Write” button. File compression and CHECKSUM will be carried out. The “START” message will appear. Press the “OK” button to begin the data transfer.

Fig. l

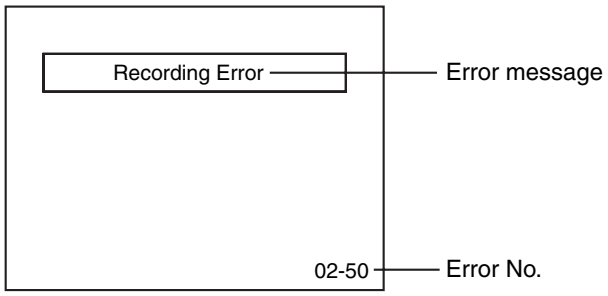
4. On completion of the data transfer, the end of data transfer message “END” will be displayed and the G6 Serial Firm Up Software can be safely closed. The data transfer will take approximately 7 minutes.
5. After completion of the data transfer, the DVR with DVD Player will begin the erase and over writing process. This process will take approximately 2.5 minutes.
6. When the progress bar of the DVR with DVD Player turns fully yellow and “STATUS:OK” is displayed, the overwriting process is complete and the power can be turned off.

* When the G6 Serial Firm Up Software is run, the following may occur but should not be considered a problem:

1. When a file is selected, the dialog does not reappear on the screen.
2. The data transfer progress display stops.

FUNCTION INDICATOR SYMBOLS

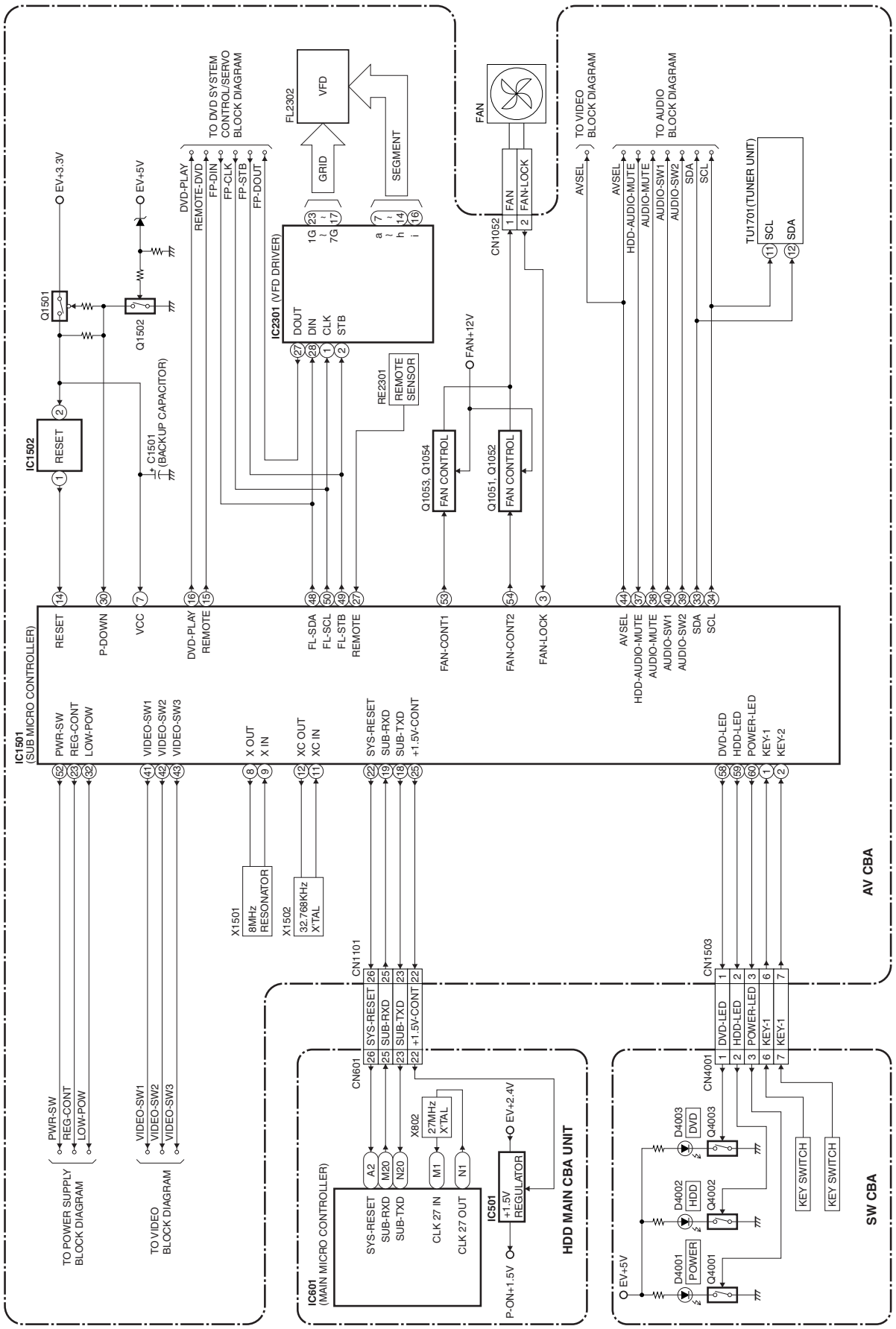
Note: If an error occurs, a message with the error number appears on the screen.



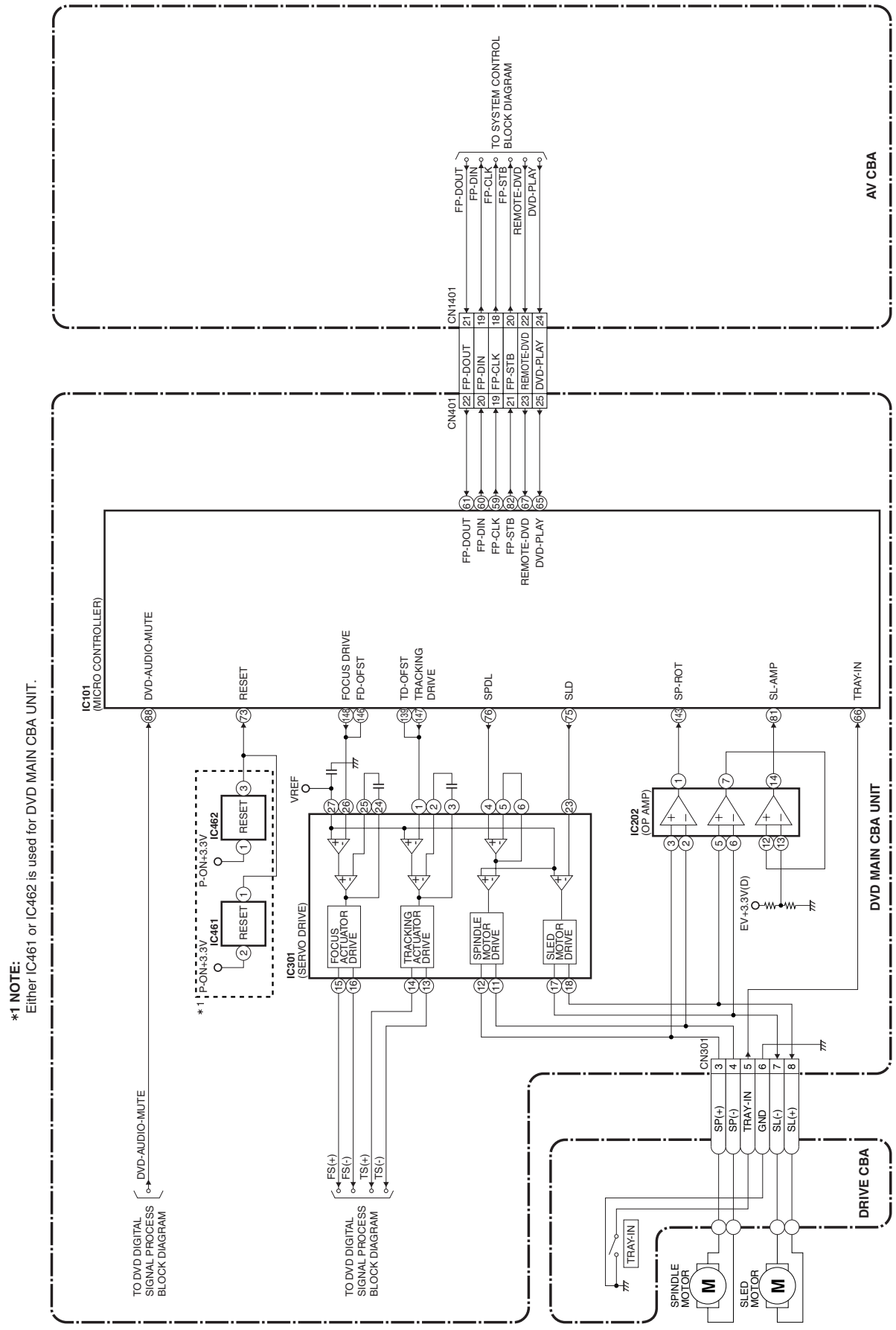
Message	Error No.	Error Description	Error Example
Recording error	03-50	Recording error caused by media error	This code is output when recording error caused by media error occurs, e.g.,stopping recording during attempting to record on a scratched disc.
	03-56	General error	This code is output when a number of errors occur: Ex.1) When Outplay list creation fails. Ex.2) When the system can't take the title information which should be written on the disc. Ex3) When starting to copy, recording is paused and restarted but, after the recording pause, recording start fails.
	03-57	Device error	This code is output when an HDD operation error occurs (HDD recording error), while copying at high speed or constant speed.
System error	02-50	Erasing error (all titles)	This code is output when an error occurs erasing entire VR playlist, HDD playlist or HDD originals.
	02-52	Format failure	This code is output when HDD formatting occurs in maintenance mode.
	02-54	Abnormal HDD mount	This code is output when a [PLAY], [STOP], [REC], [MENU] or [LIST] button is pressed while HDD is not functional.
	02-57	Fan lock	This code is output when fan locking (over 30 seconds) is detected. After the error message is displayed, the power turns off.
	02-59	HDD hang-up	This code is output when HDD hang-up event occurs. After the error message is displayed, the power turns off.

BLOCK DIAGRAMS

System Control Block Diagram

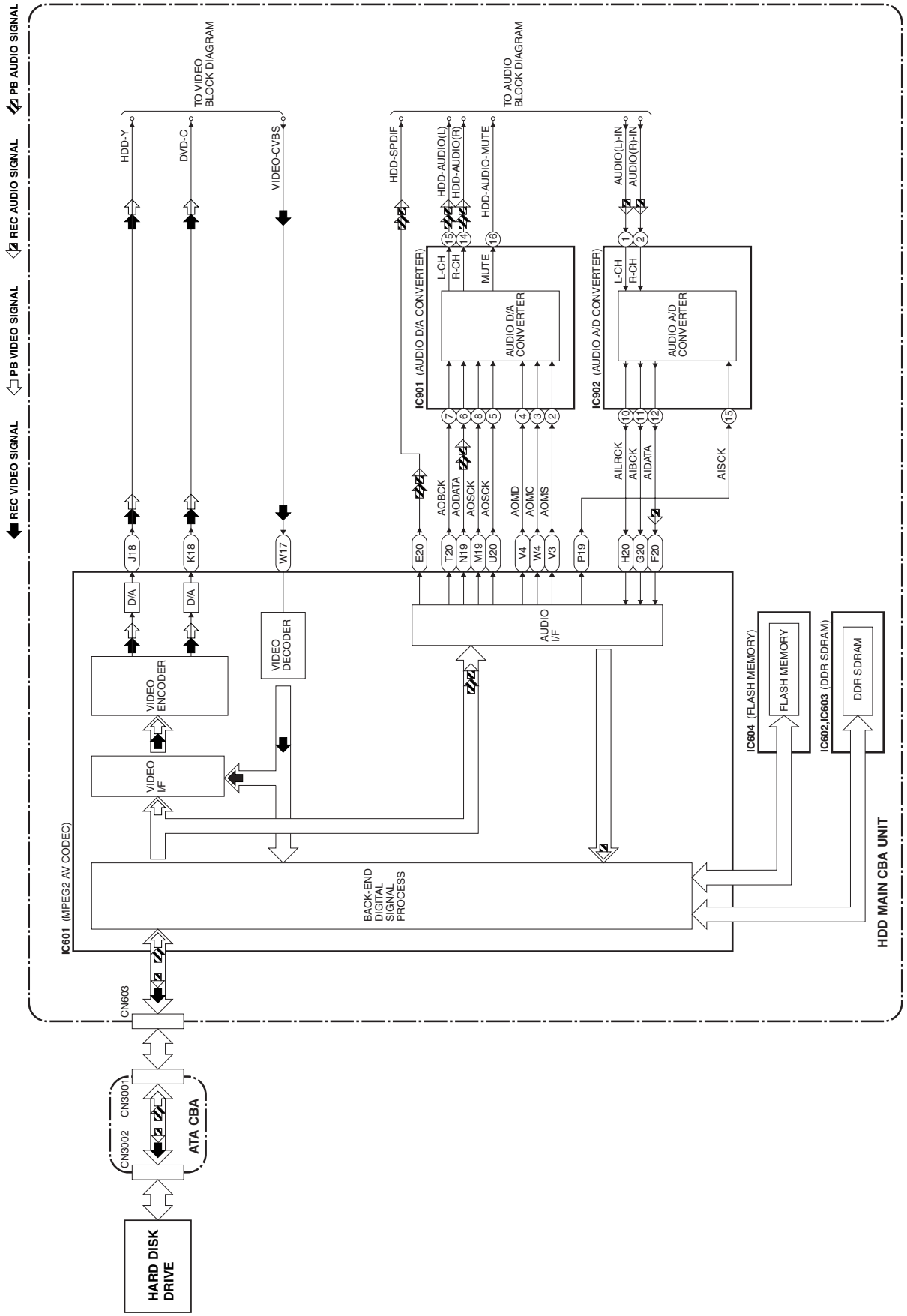


DVD System Control/Servo Block Diagram

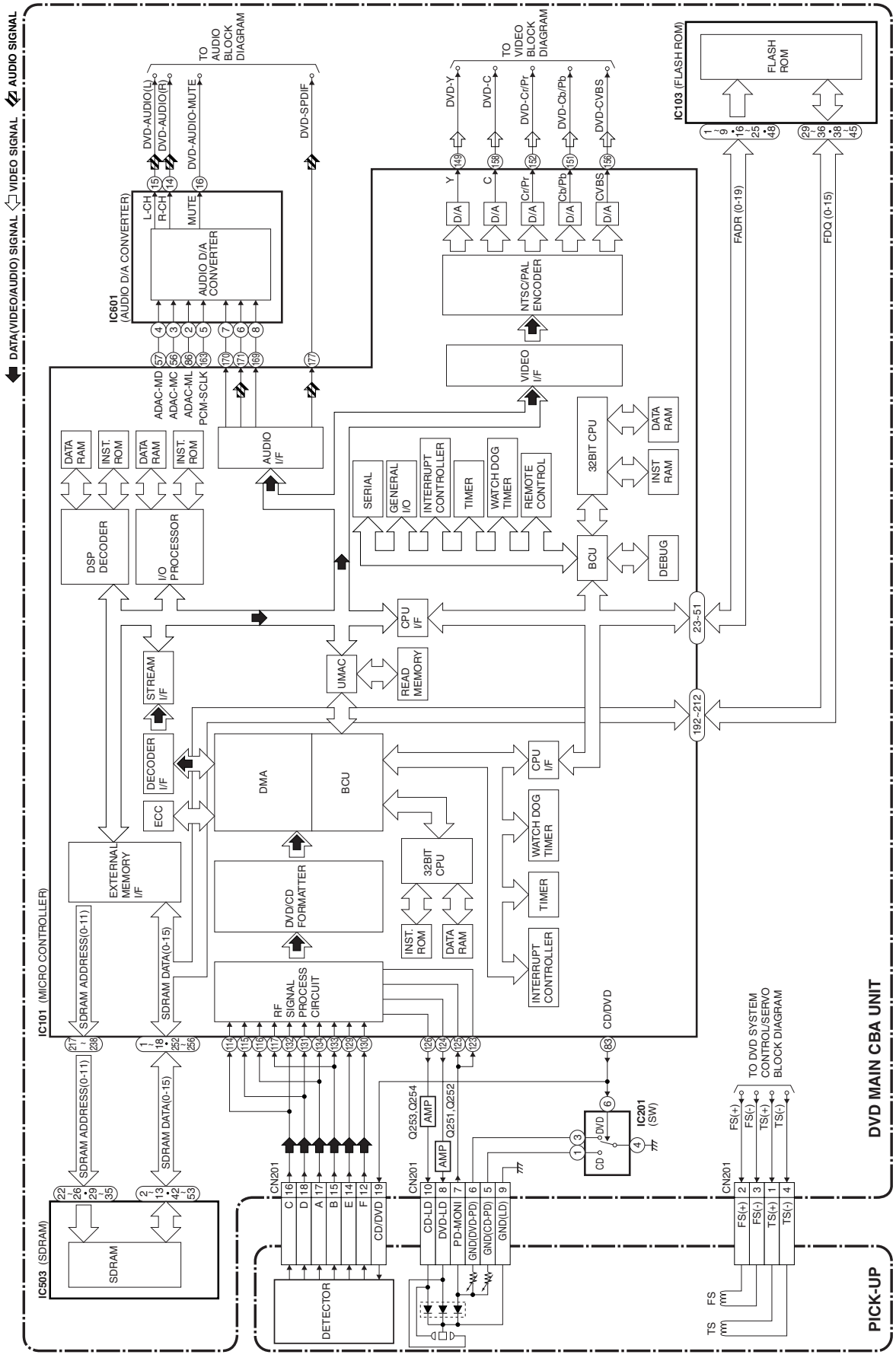


***1 NOTE:**
Either IC461 or IC462 is used for DVD MAIN CBA UNIT.

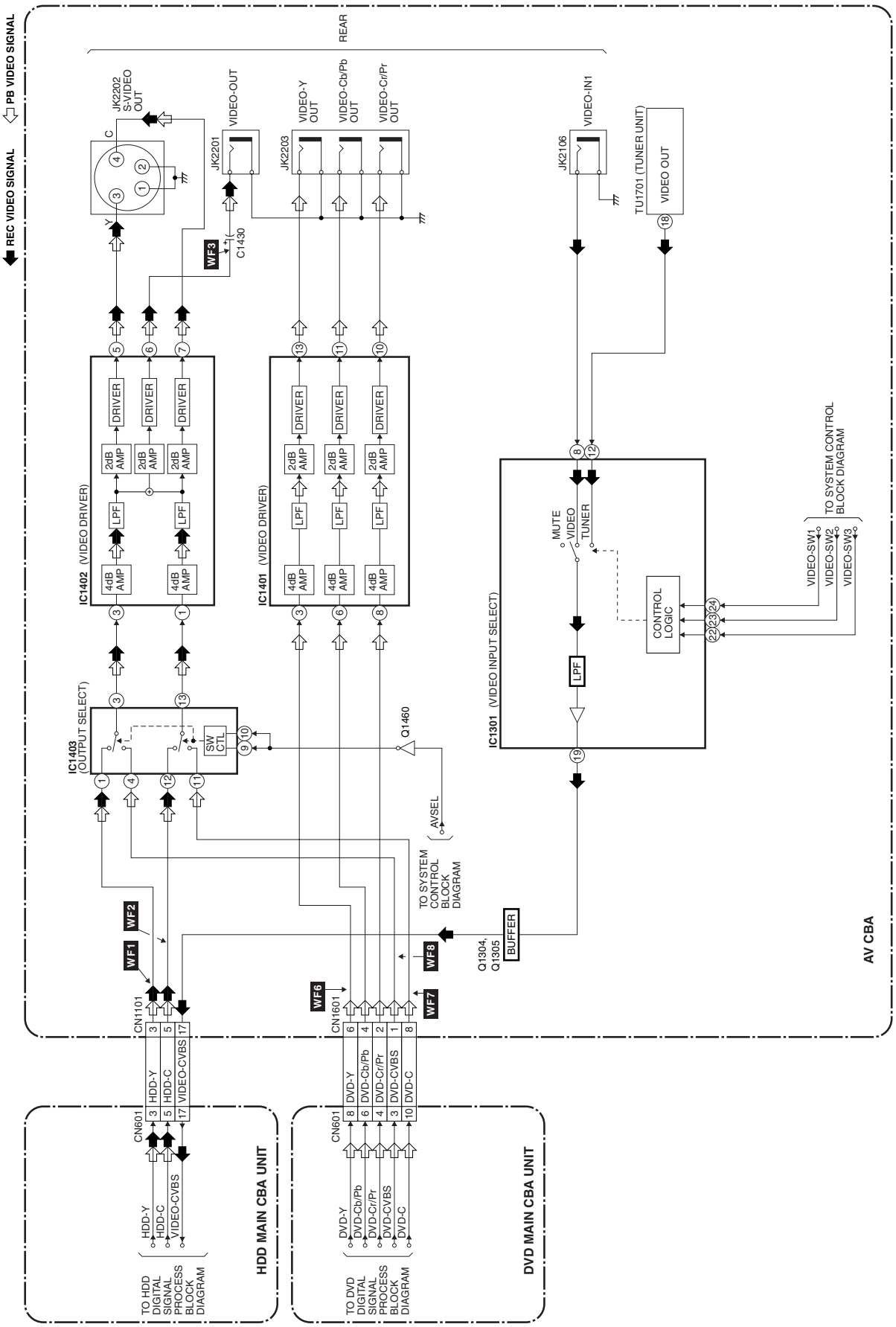
HDD Digital Signal Process Block Diagram



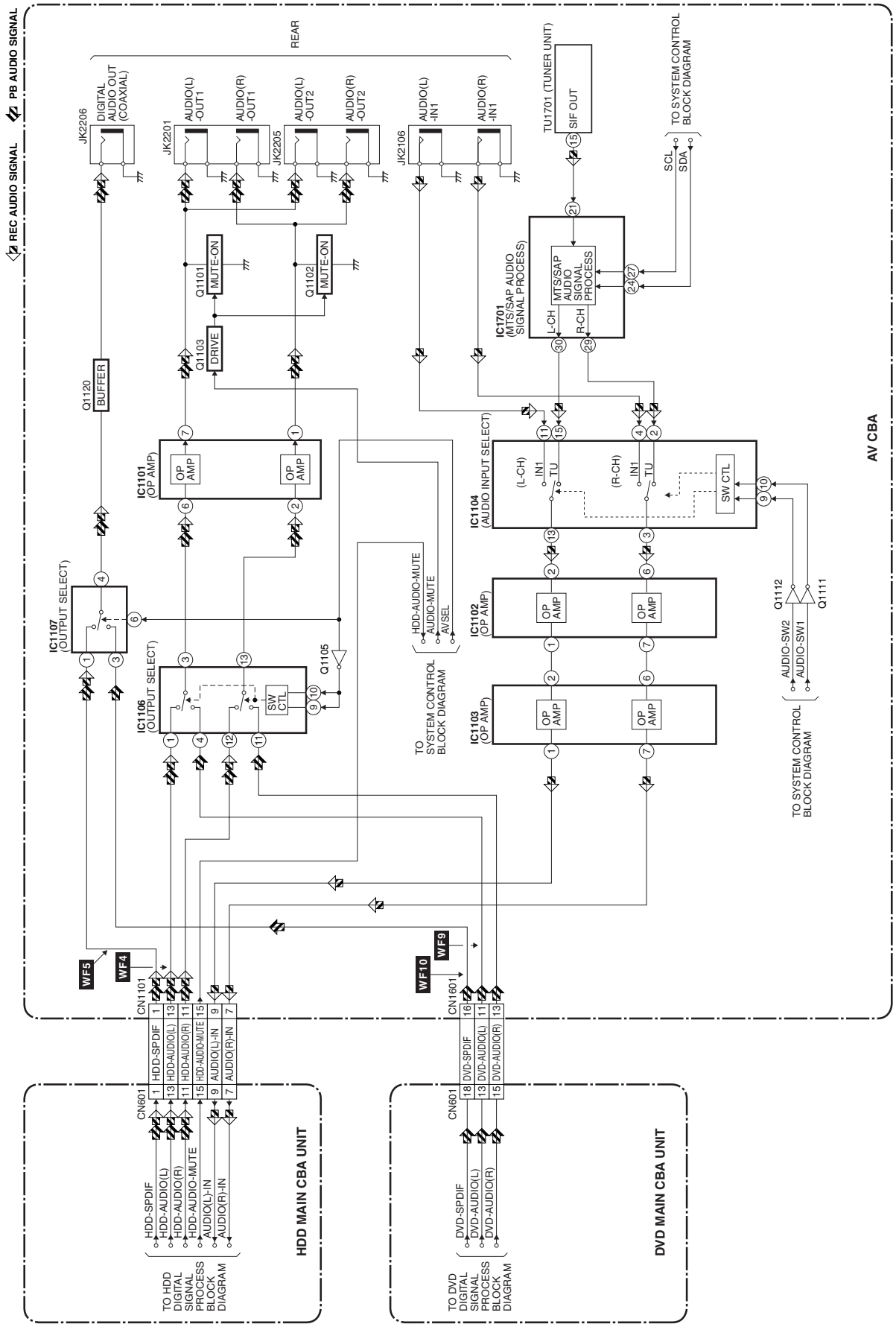
DVD Digital Signal Process Block Diagram



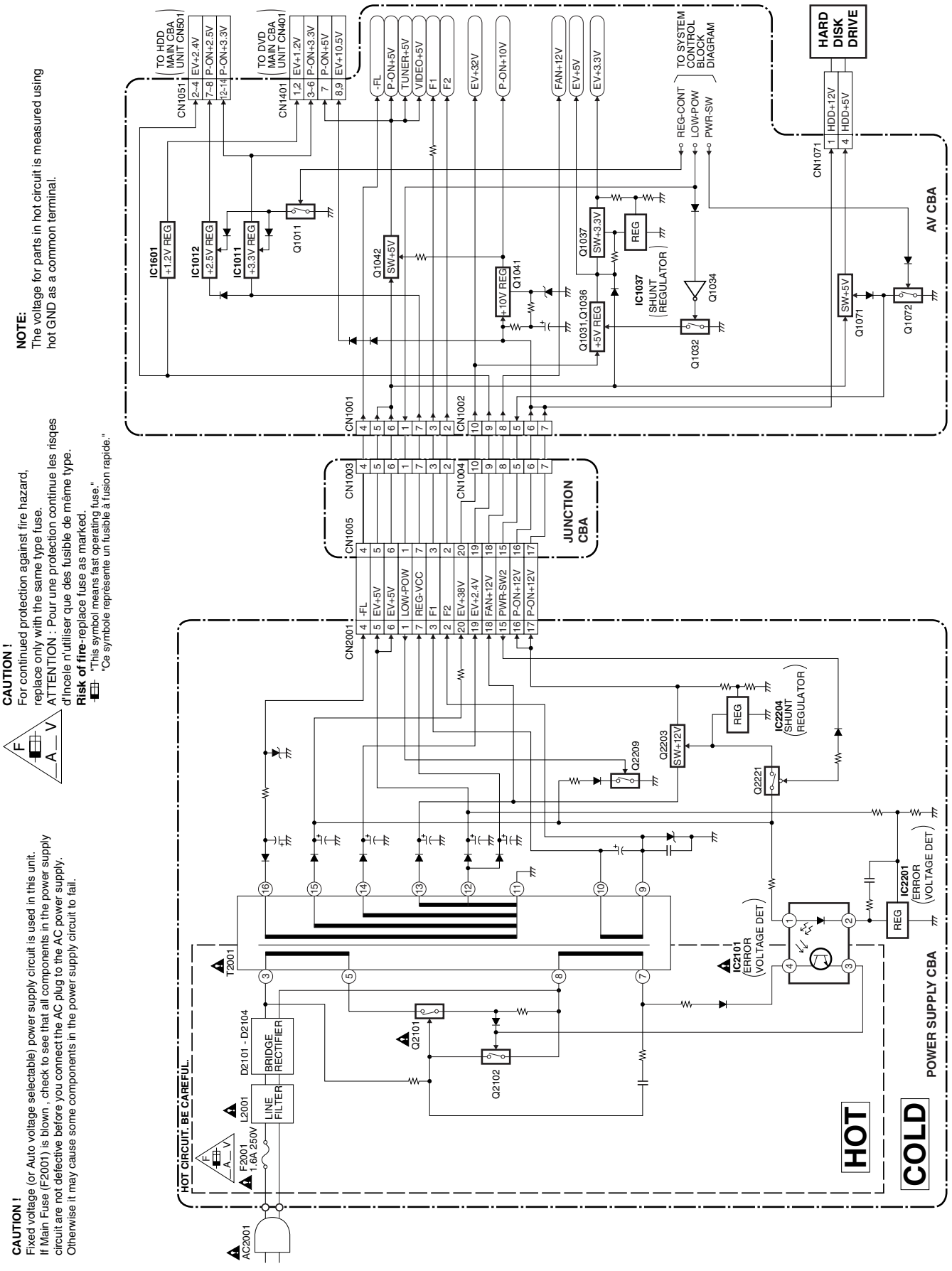
Video Block Diagram



Audio Block Diagram



Power Supply Block Diagram



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

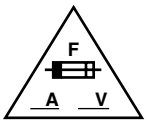
Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark "⚠" in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K = 10^3$, $M = 10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P = 10^{-6}$ μF).
5. All voltages are DC voltages unless otherwise specified.

LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. CAUTION:



FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MÊME TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.

This symbol means fast operating fuse.
Ce symbole reprèsente un fusible à fusion rapide.

2. CAUTION:

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F2001) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. Note:

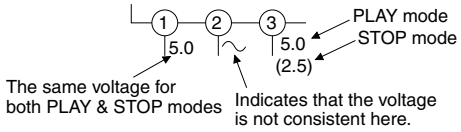
1. Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
2. To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Mode: SP/REC

5. Voltage indications for PLAY and REC modes on the schematics are as shown below:

< DVD/HDD Section >

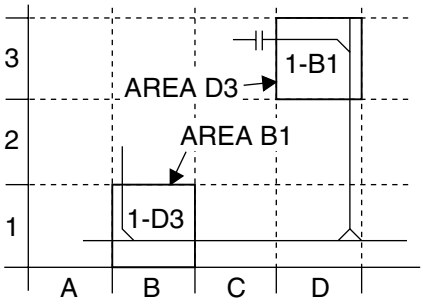
Unit: Volts



6. How to read converged lines

1-D3
- Distinction Area
- Line Number (1 to 3 digits)

Examples:
1. "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
2. "1-B1" means that line number "1" goes to the line number "1" of the area "B1".



7. Test Point Information

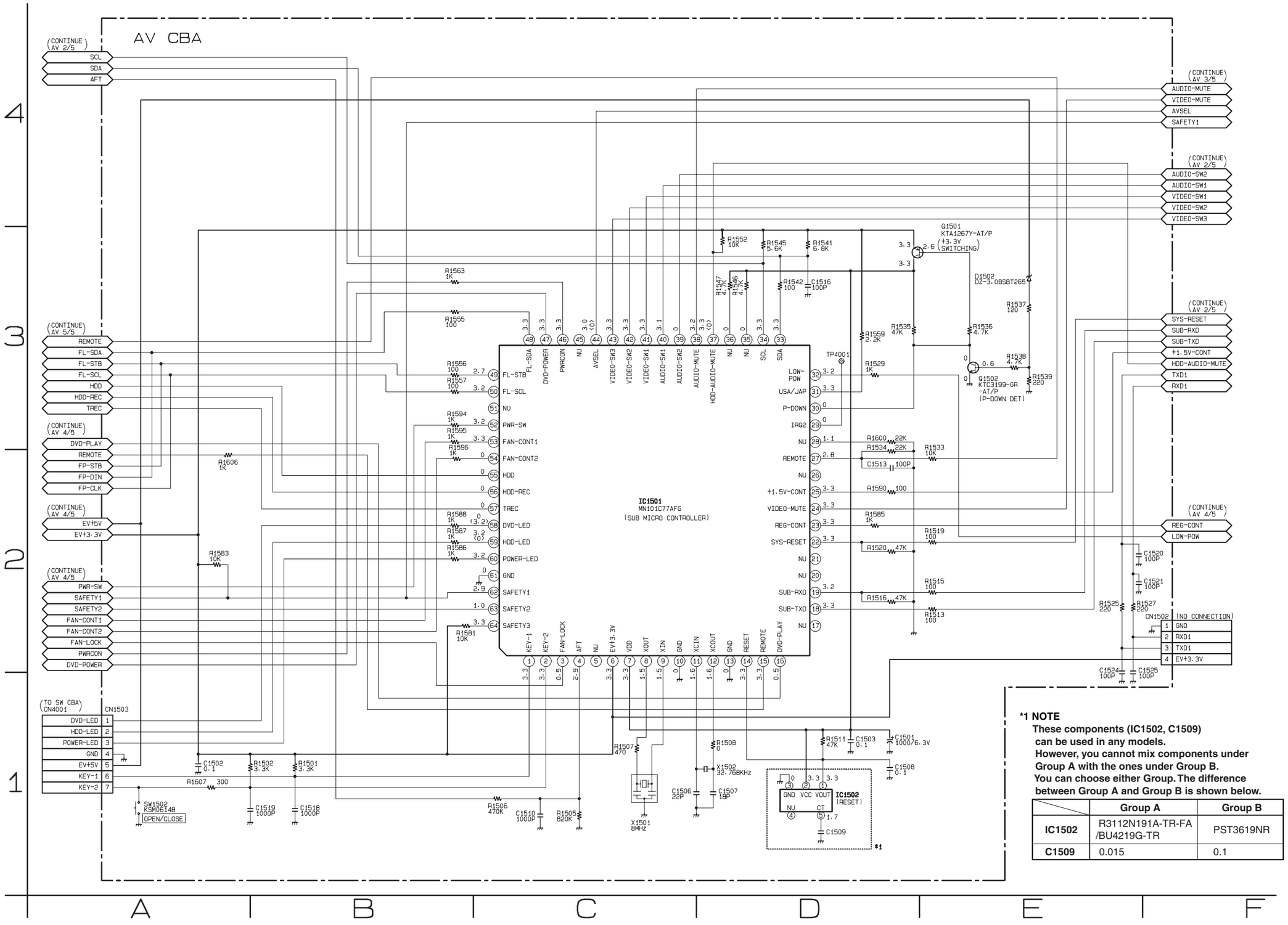
: Indicates a test point with a jumper wire across a hole in the PCB.

: Used to indicate a test point with a component lead on foil side.

: Used to indicate a test point with no test pin.

: Used to indicate a test point with a test pin.

AV 1/5 Schematic Diagram

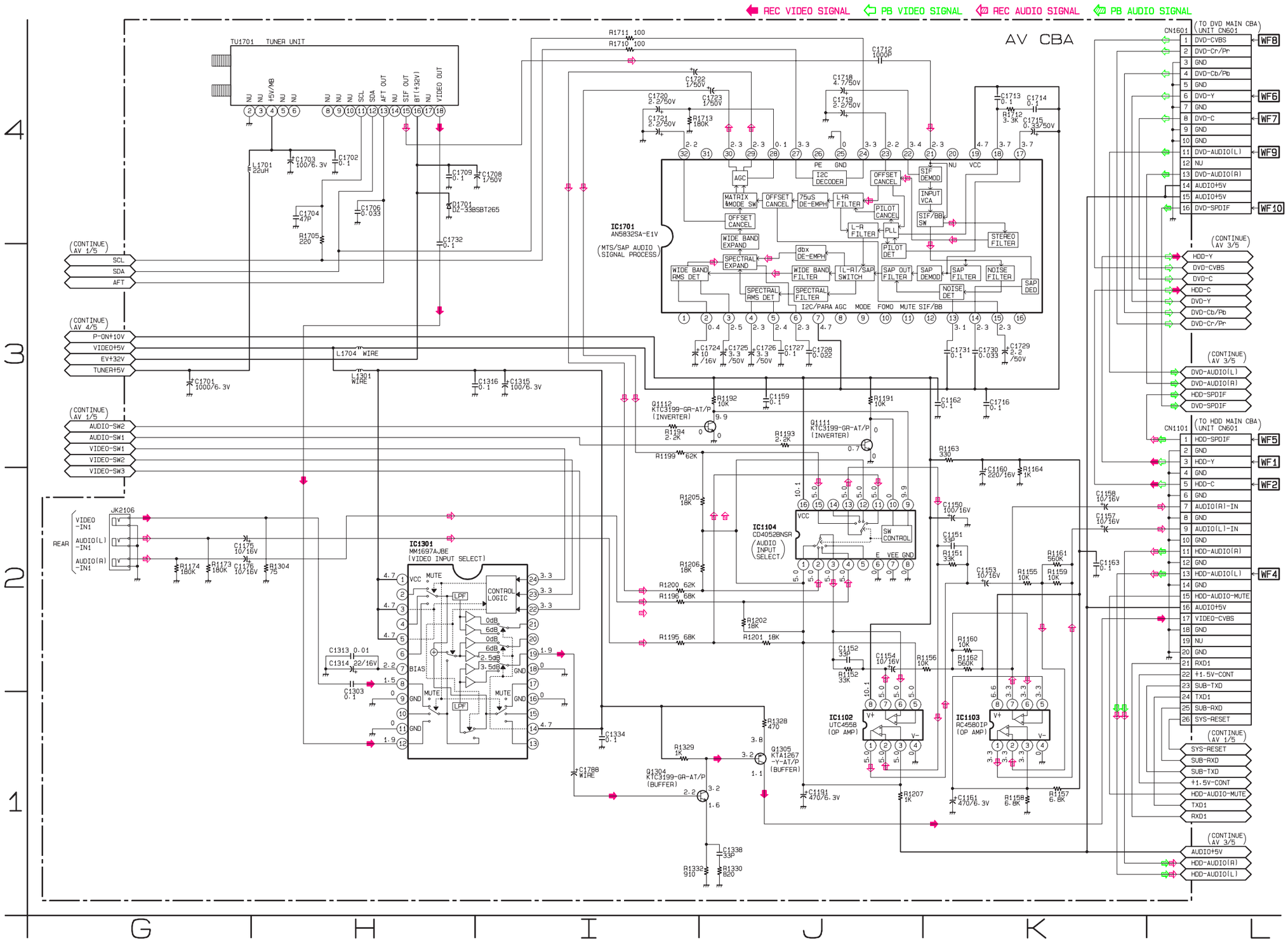


***1 NOTE**

These components (IC1502, C1509) can be used in any models. However, you cannot mix components under Group A with the ones under Group B. You can choose either Group. The difference between Group A and Group B is shown below.

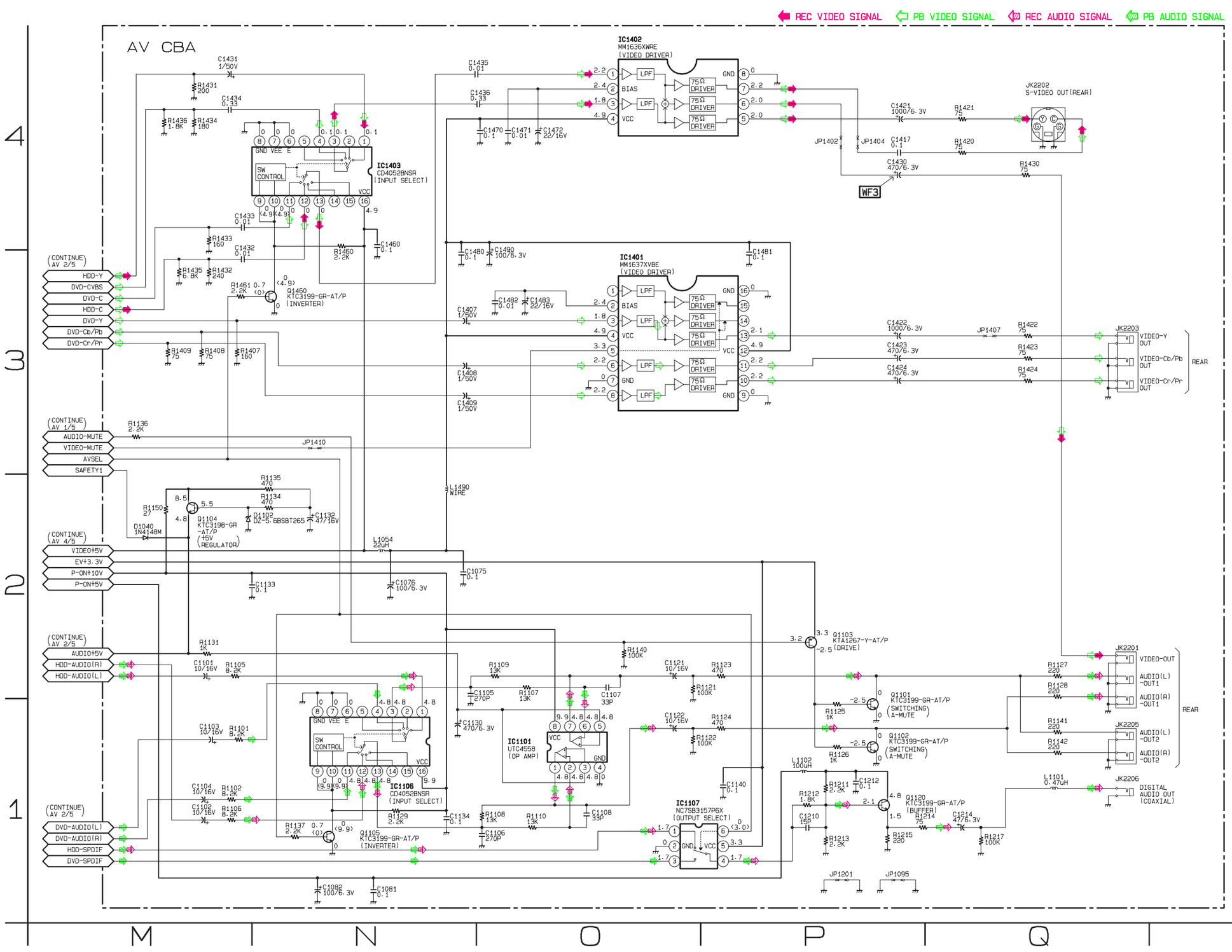
	Group A	Group B
IC1502	R3112N191A-TR-FA /BU4219G-TR	PST3619NR
C1509	0.015	0.1

AV 2/5 Schematic Diagram

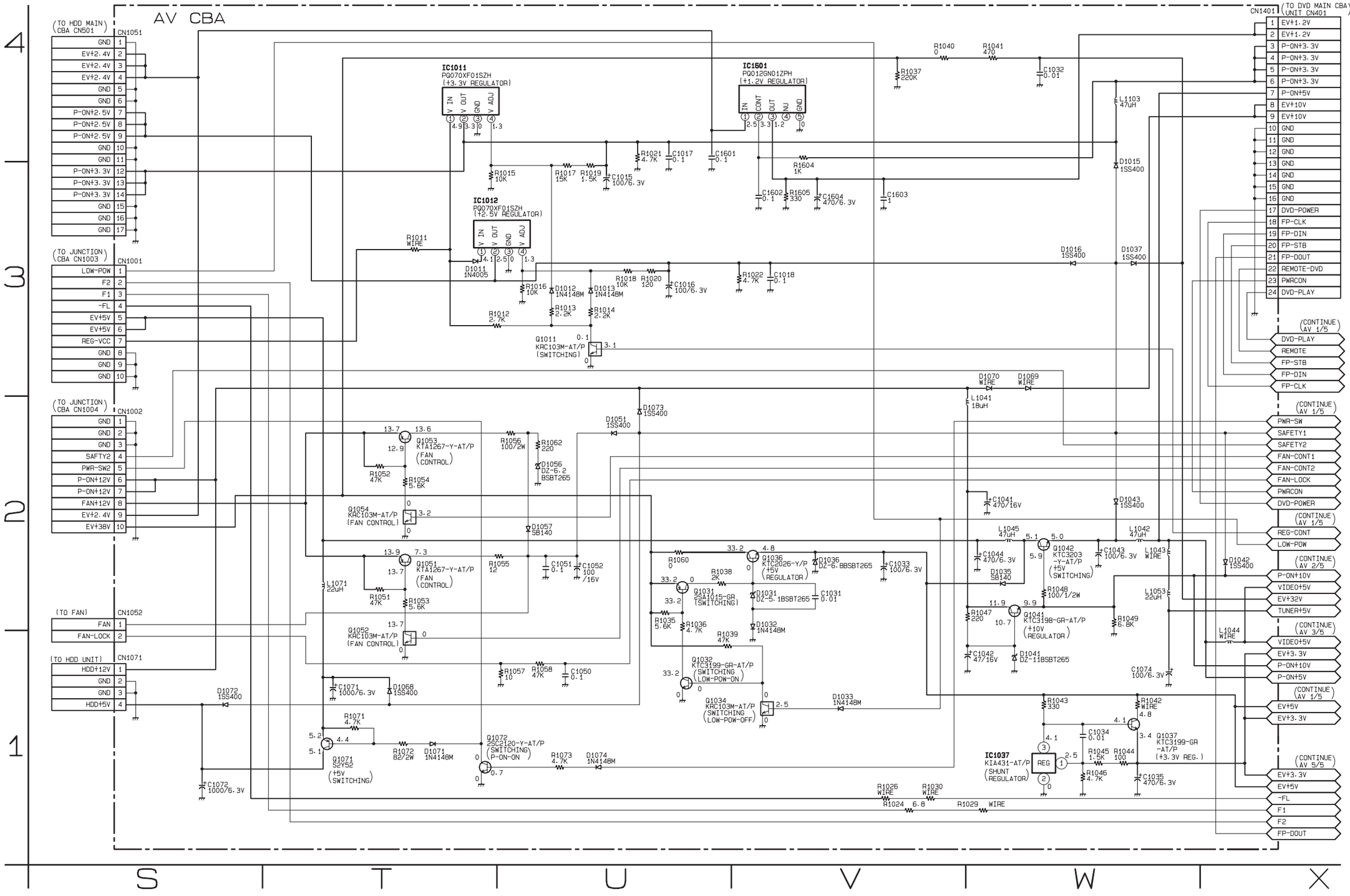


E41A1SCAV2

AV 3/5 Schematic Diagram



AV 4/5 Schematic Diagram

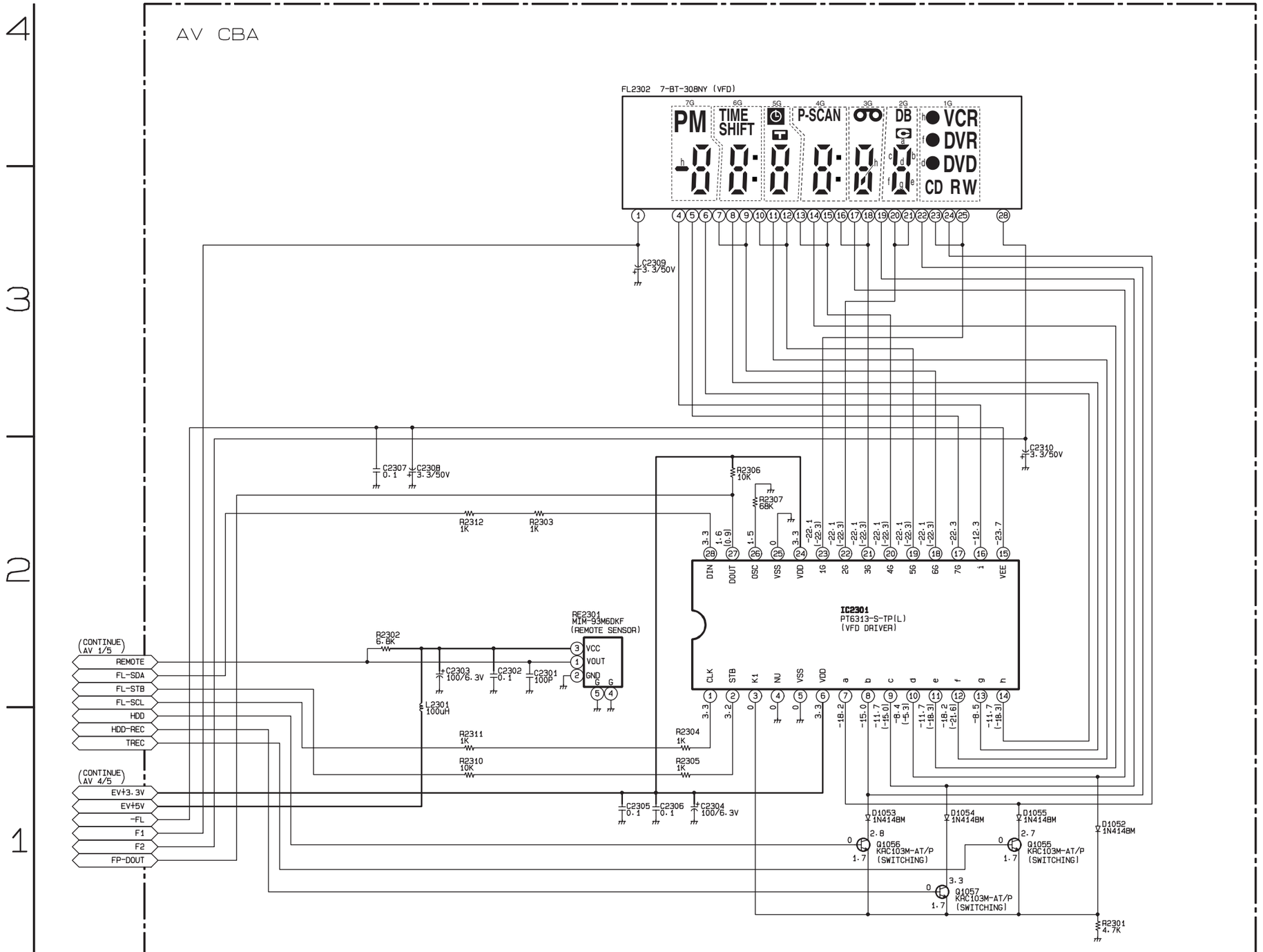


E41A1SCAV4

AV 5/5 Schematic Diagram

FL2302 MATRIX CHART

	7G	6G	5G	4G	3G	2G	1G
a	a	a	a	a	a	a	CD
b	b	b	b	b	b	b	W
c	c	c	c	c	c	c	R
d	d	d	d	d	d	d	d
e	e	e	e	e	e	e	DVD
f	f	f	f	f	f	f	f
g	g	g	g	g	g	g	DVR
h	h	:	T	:	h	C	h
i	PM	TIME SHIFT	⏲	P-SCAN	∞	DB	VCR

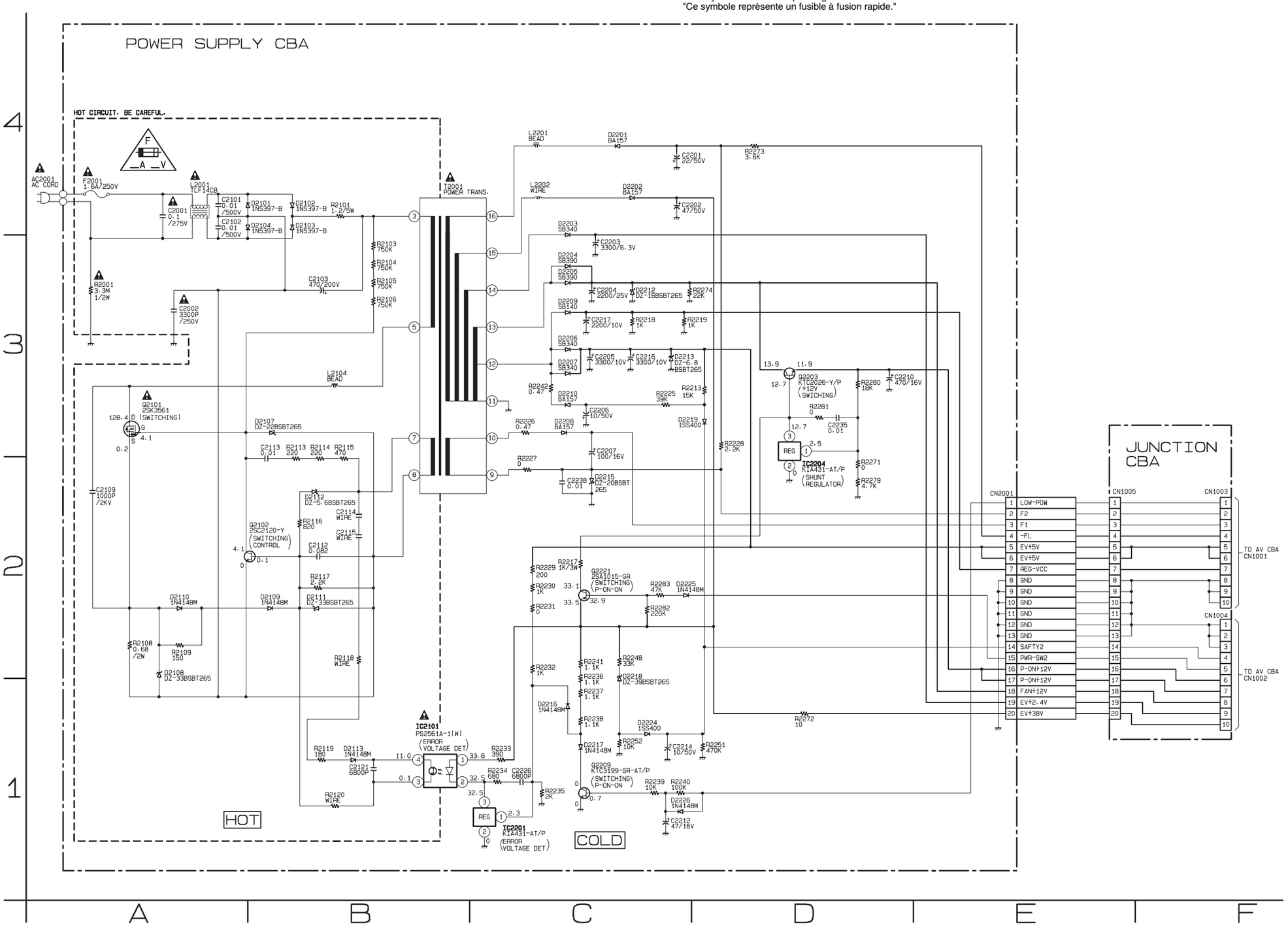


Power Supply & Junction Schematic Diagram

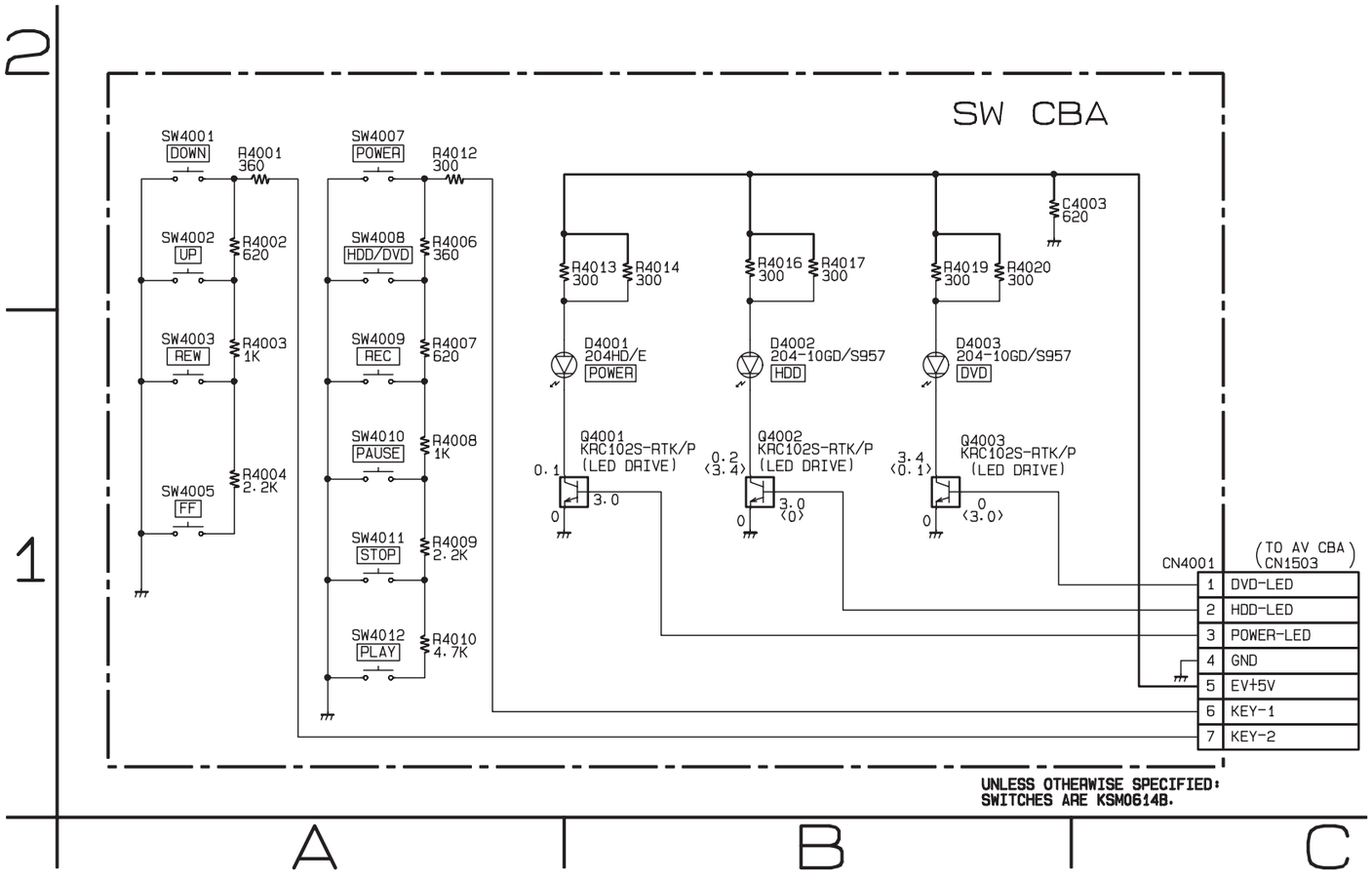
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F2001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION !
For continued protection against fire hazard,
replace only with the same type fuse.
ATTENTION : Pour une protection continue les risqes d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

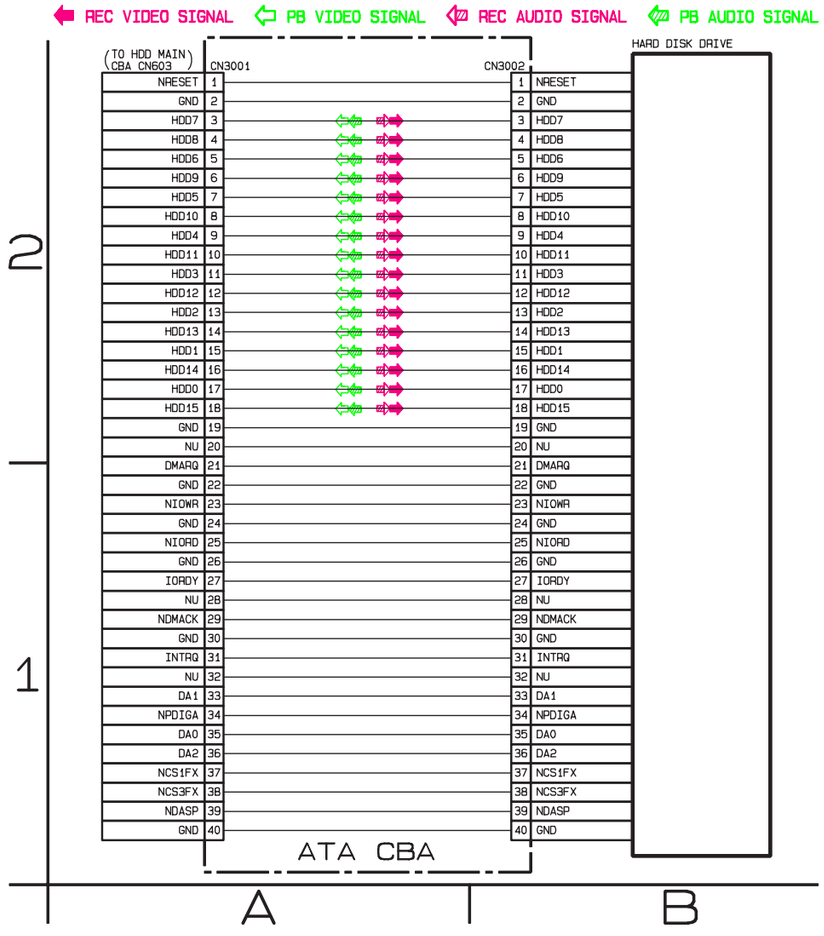


SW Schematic Diagram



E41A1SCSW

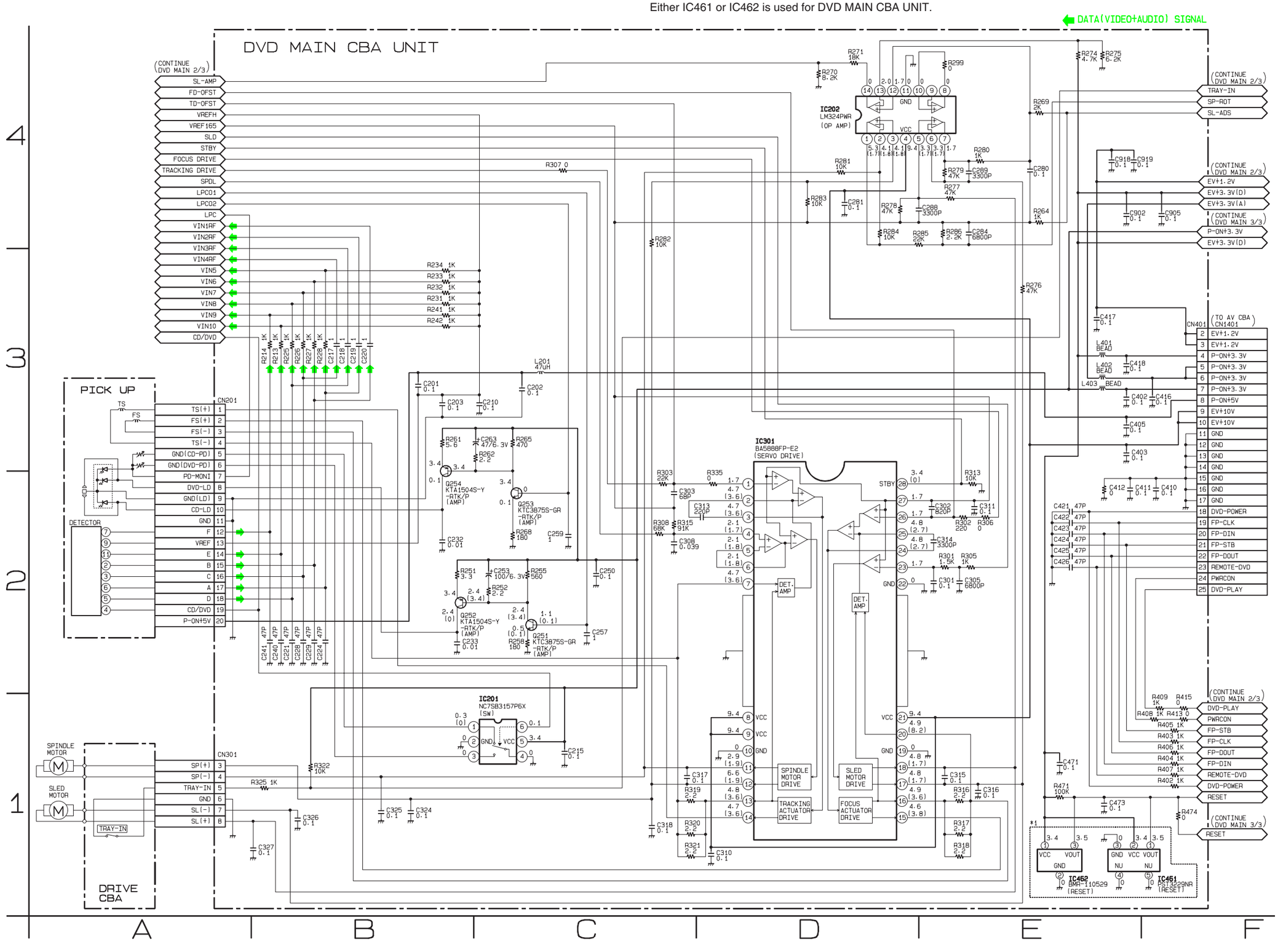
ATA Schematic Diagram


REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
HARD DISK DRIVE
(TO HDD MAIN
CBA CN603)
CN3001
CN3002
NRESET 1 — 1 NRESET
GND 2 — 2 GND
HDD7 3 — 3 HDD7
HDD8 4 — 4 HDD8
HDD6 5 — 5 HDD6
HDD9 6 — 6 HDD9
HDD5 7 — 7 HDD5
HDD10 8 — 8 HDD10
HDD4 9 — 9 HDD4
HDD11 10 — 10 HDD11
HDD3 11 — 11 HDD3
HDD12 12 — 12 HDD12
HDD2 13 — 13 HDD2
HDD13 14 — 14 HDD13
HDD1 15 — 15 HDD1
HDD14 16 — 16 HDD14
HDD0 17 — 17 HDD0
HDD15 18 — 18 HDD15
GND 19 — 19 GND
NU 20 — 20 NU
DMARQ 21 — 21 DMARQ
GND 22 — 22 GND
NIOWR 23 — 23 NIOWR
GND 24 — 24 GND
NIORD 25 — 25 NIORD
GND 26 — 26 GND
IORDY 27 — 27 IORDY
NU 28 — 28 NU
NDMACK 29 — 29 NDMACK
GND 30 — 30 GND
INTRQ 31 — 31 INTRQ
NU 32 — 32 NU
DA1 33 — 33 DA1
NPDIGA 34 — 34 NPDIGA
DA0 35 — 35 DA0
DA2 36 — 36 DA2
NCS1FX 37 — 37 NCS1FX
NCS3FX 38 — 38 NCS3FX
NDASP 39 — 39 NDASP
GND 40 — 40 GND
ATA CBA
1
2
A
B

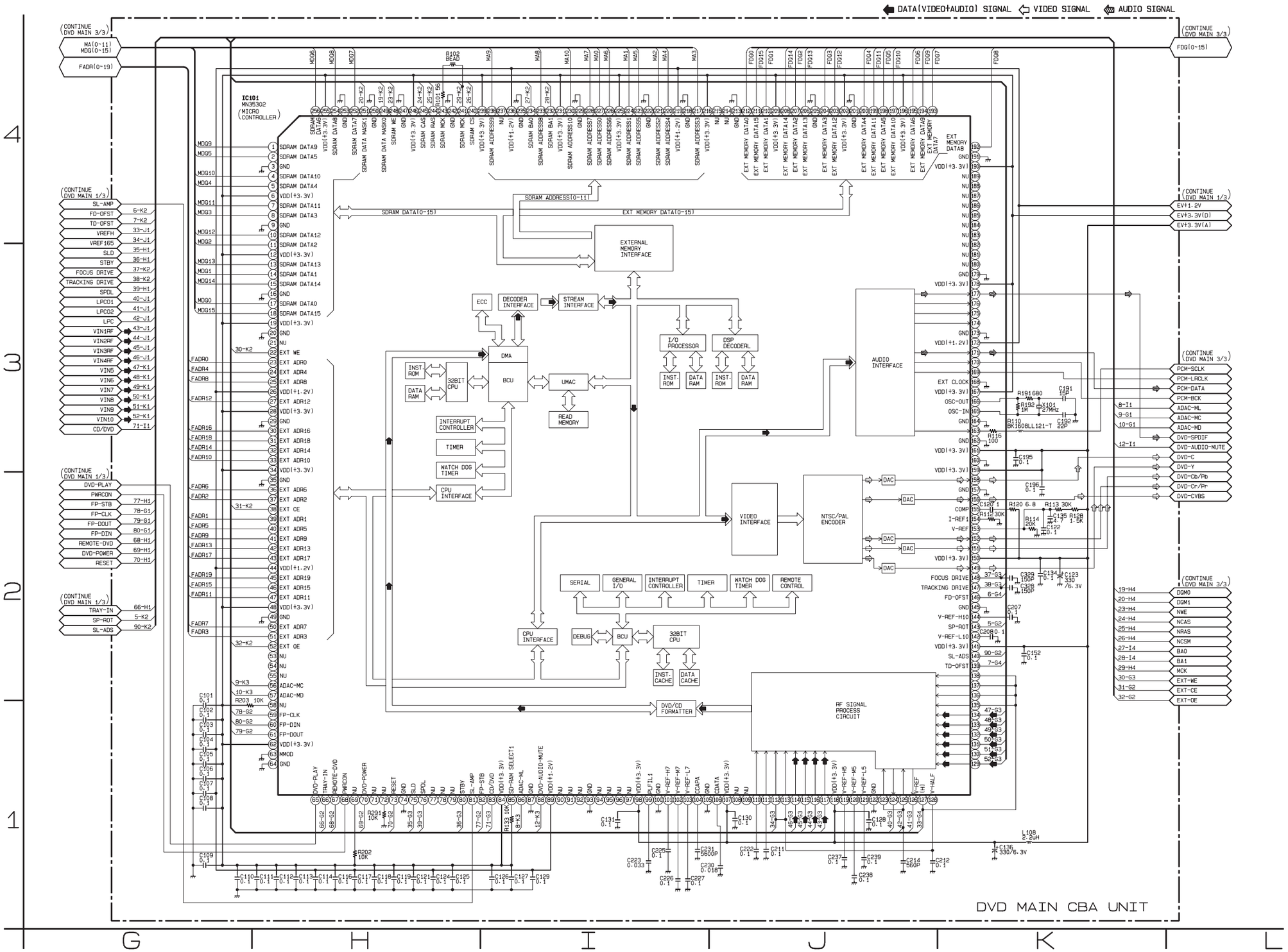
E41A1SCAT

DVD Main 1/3 Schematic Diagram

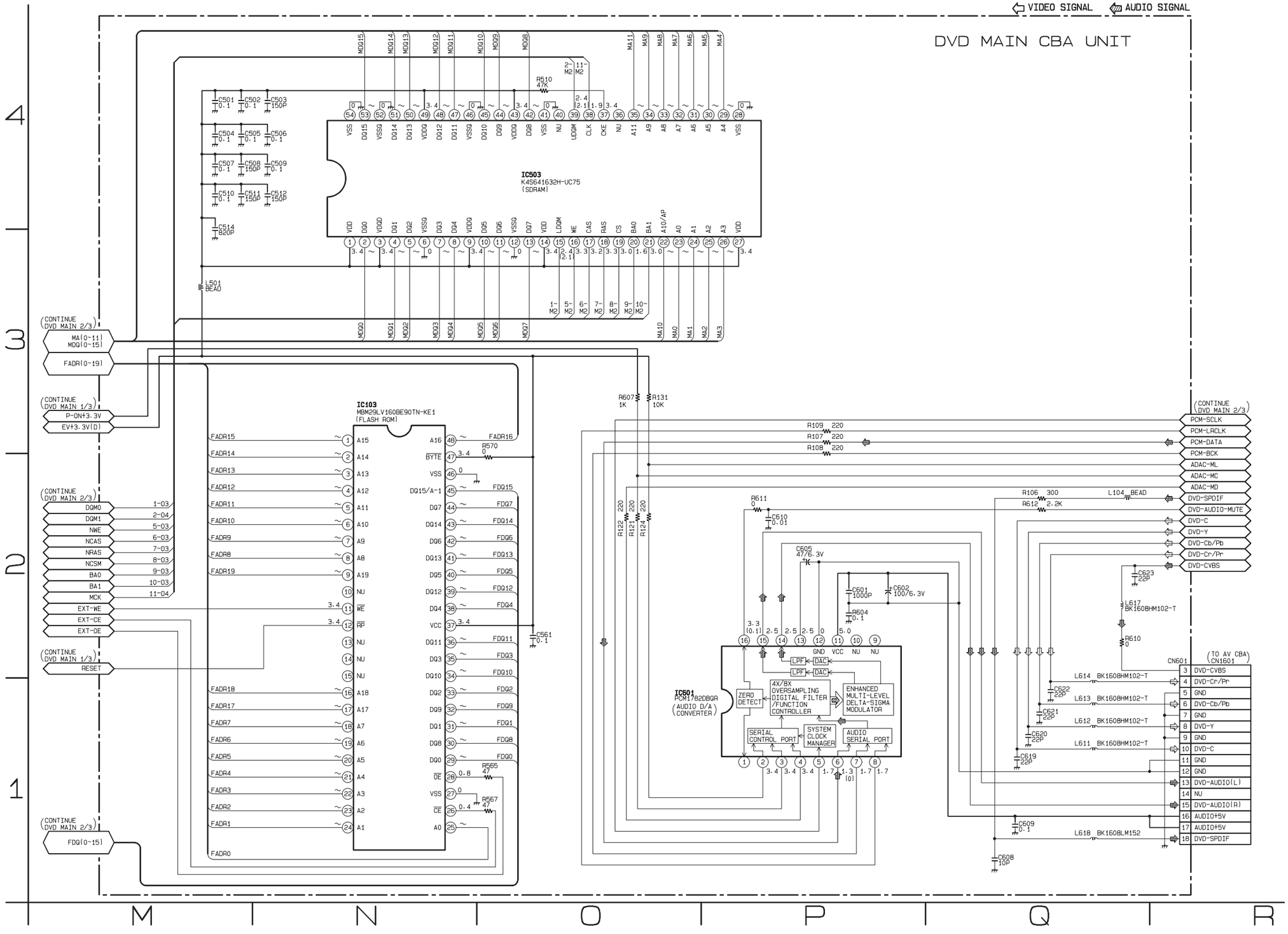
∗1 NOTE:
Either IC461 or IC462 is used for DVD MAIN CBA UNIT.



DVD Main 2/3 Schematic Diagram

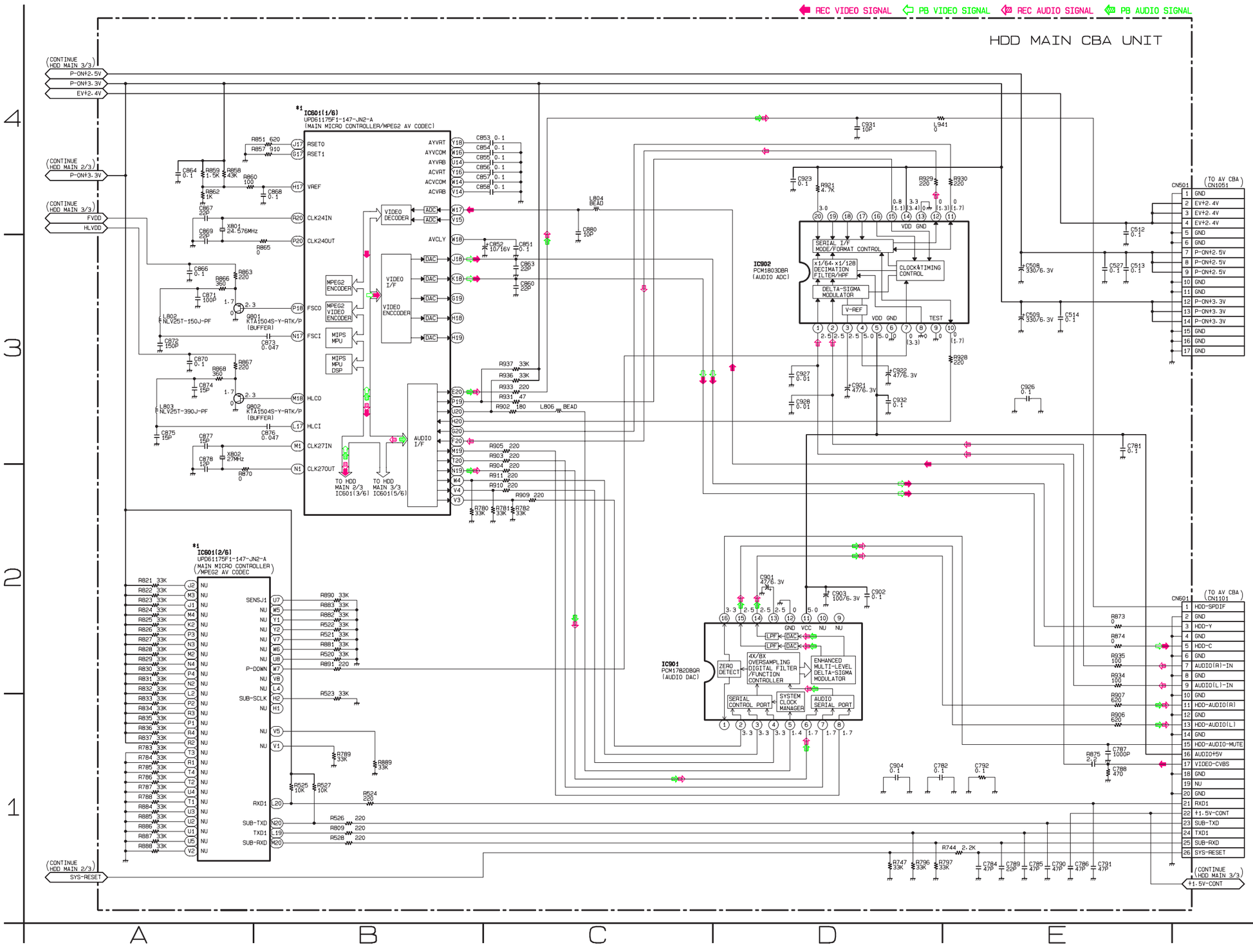


DVD Main 3/3 Schematic Diagram



HDD Main 1/3 Schematic Diagram

NOTE:
1. The order of pins shown in this diagram is different from that of actual IC601.
2. IC601 is divided into six and shown as IC601 (1/6) ~ IC601 (6/6) in this HDD Main Schematic Diagram Section.

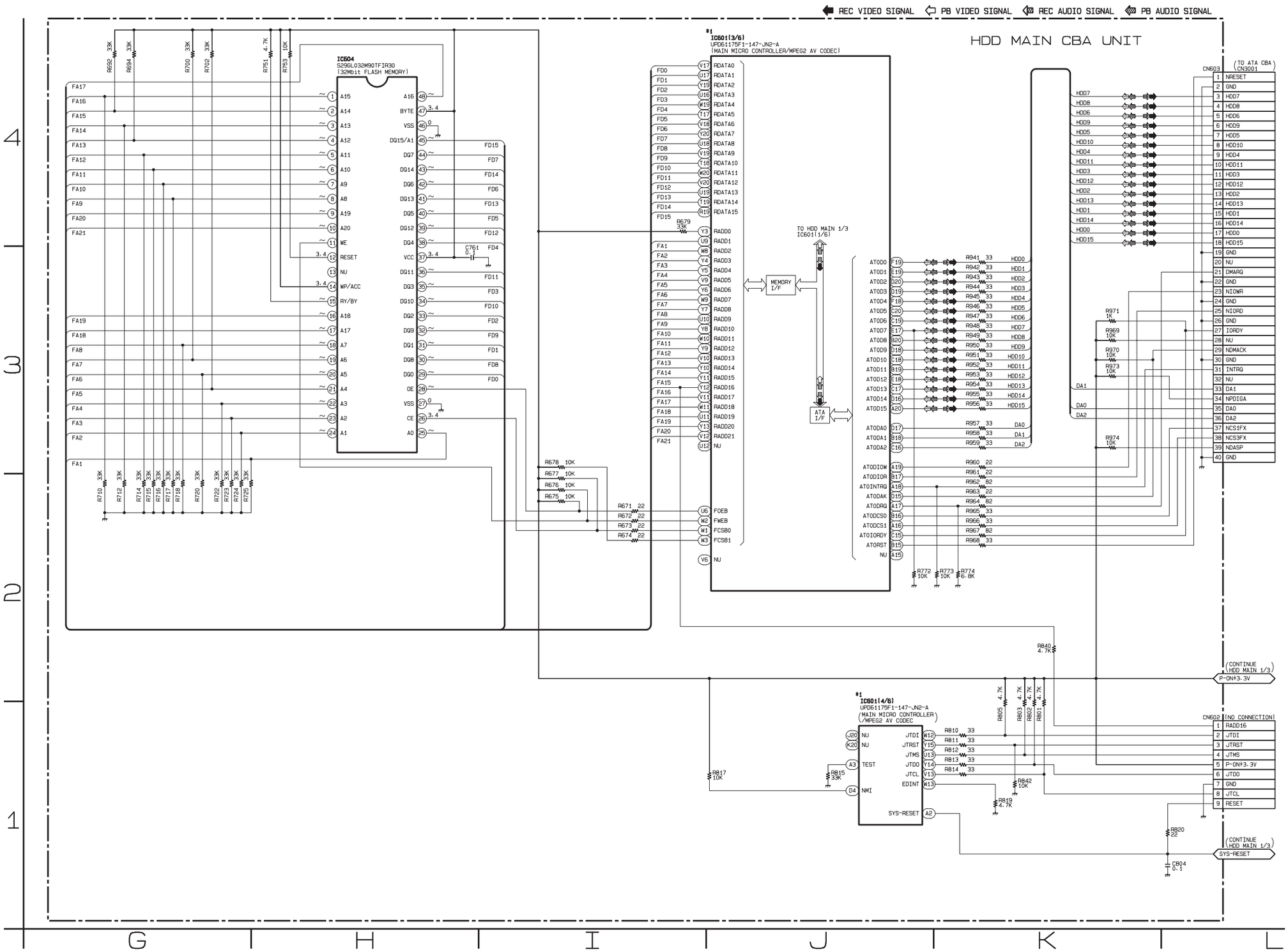


E41A1SCH1

HDD Main 2/3 Schematic Diagram

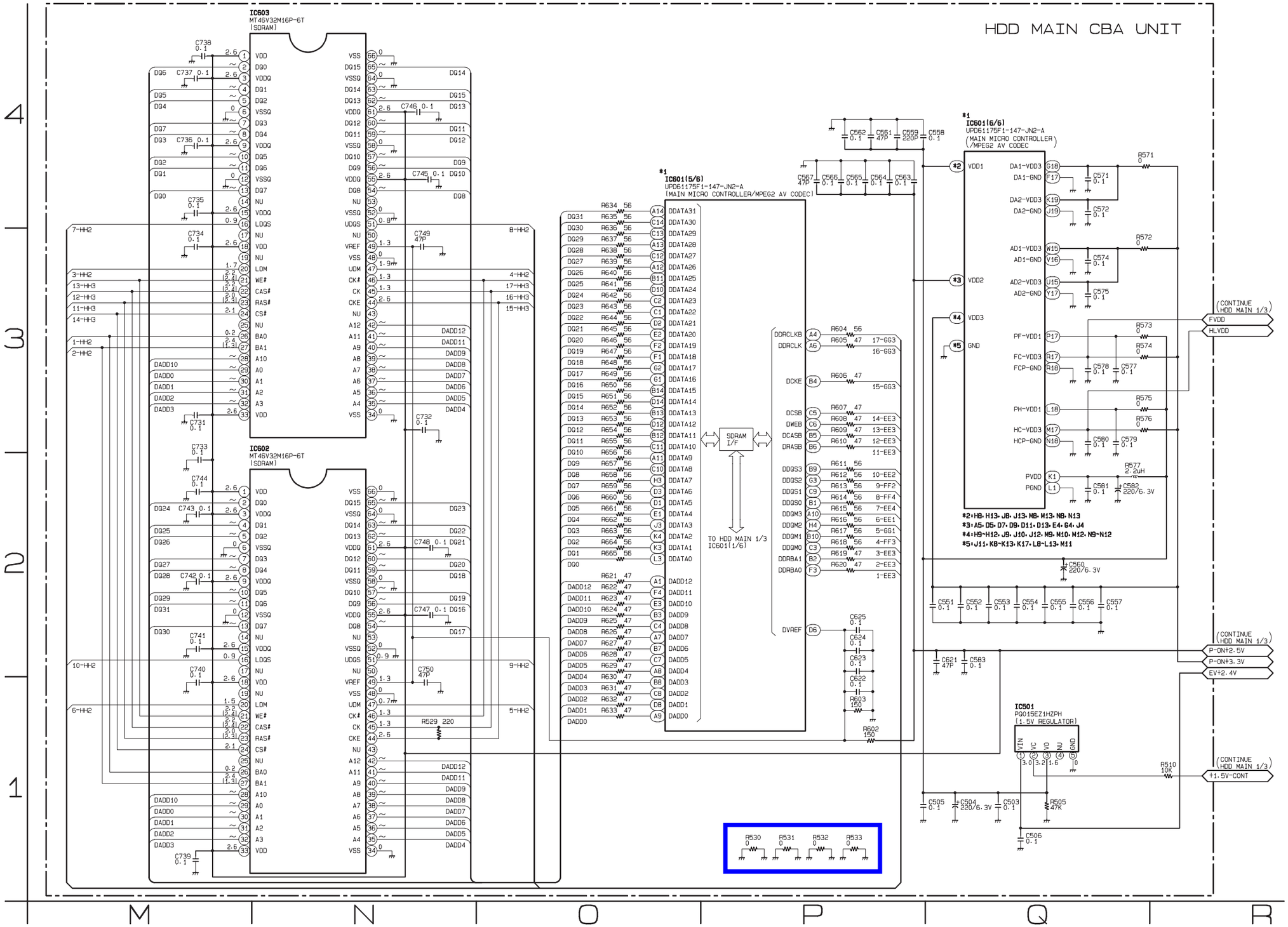
NOTE:

1. The order of pins shown in this diagram is different from that of actual IC601.
2. IC601 is divided into six and shown as IC601 (1/6) ~ IC601 (6/6) in this HDD Main Schematic Diagram Section.



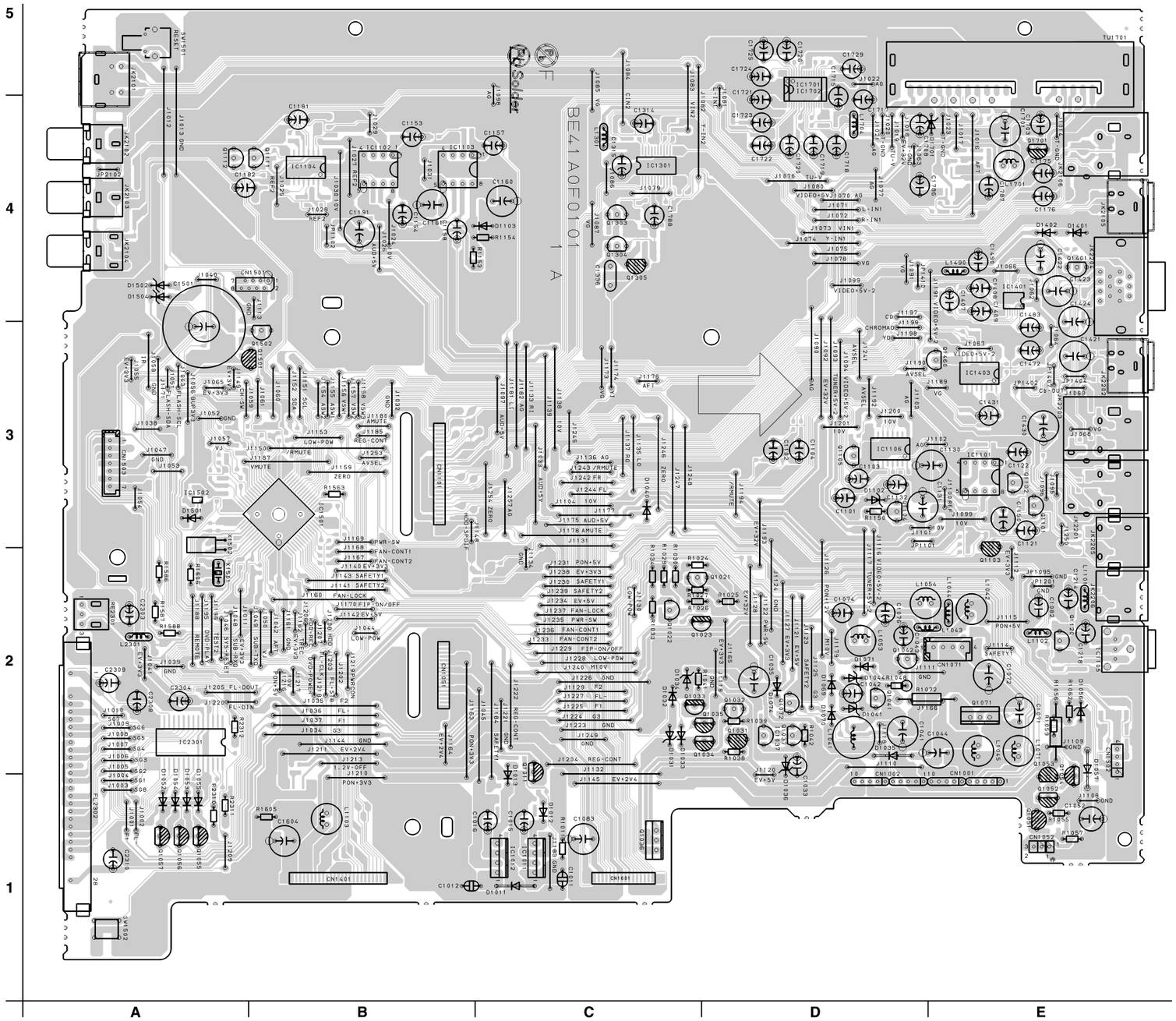
HDD Main 3/3 Schematic Diagram

NOTE:
1. The order of pins shown in this diagram is different from that of actual IC601.
2. IC601 is divided into six and shown as IC601 (1/6) ~ IC601 (6/6) in this HDD Main Schematic Diagram Section.

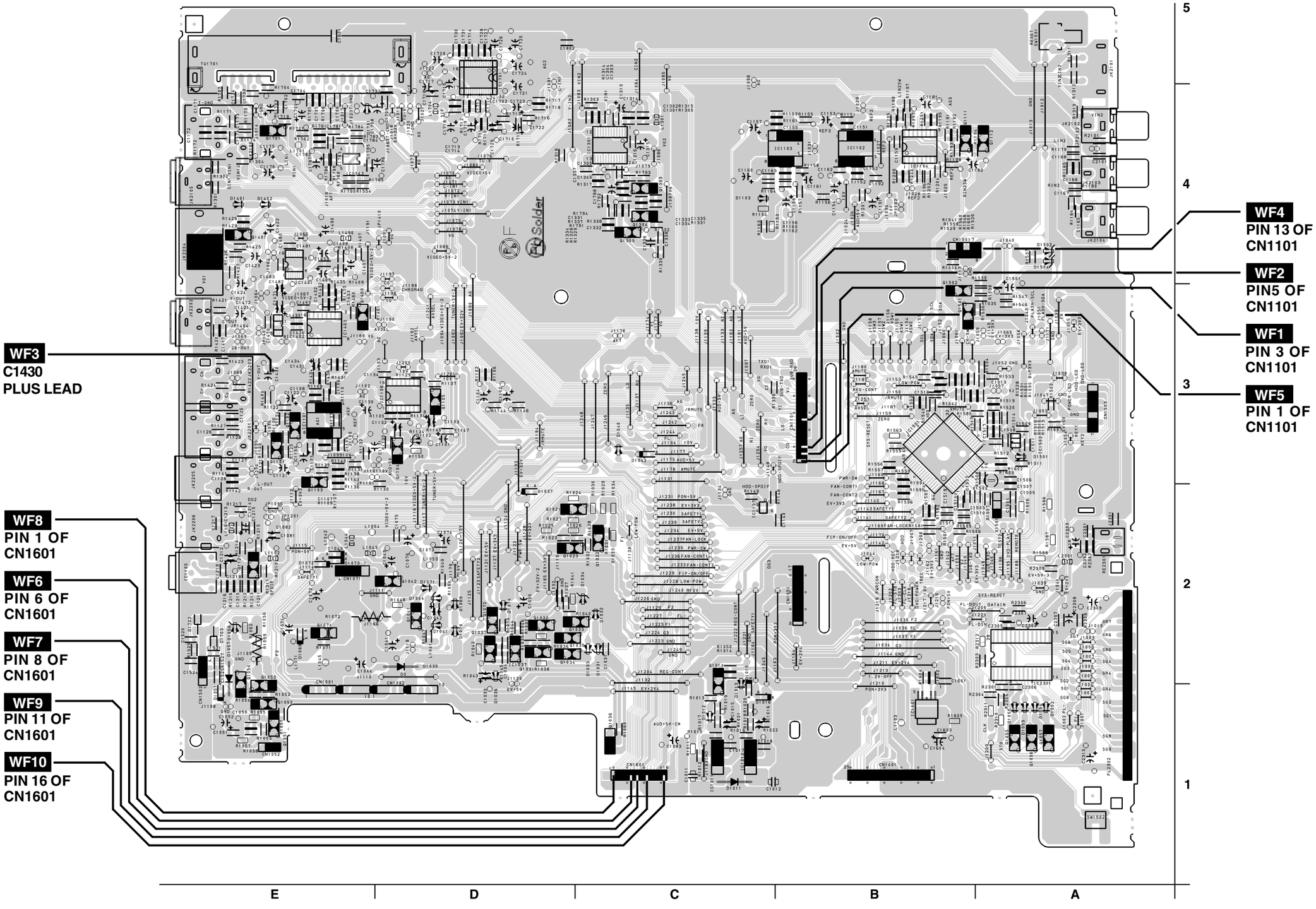


E41A1SCH3

AV CBA Top View



AV CBA Bottom View



BE41A0F01011A

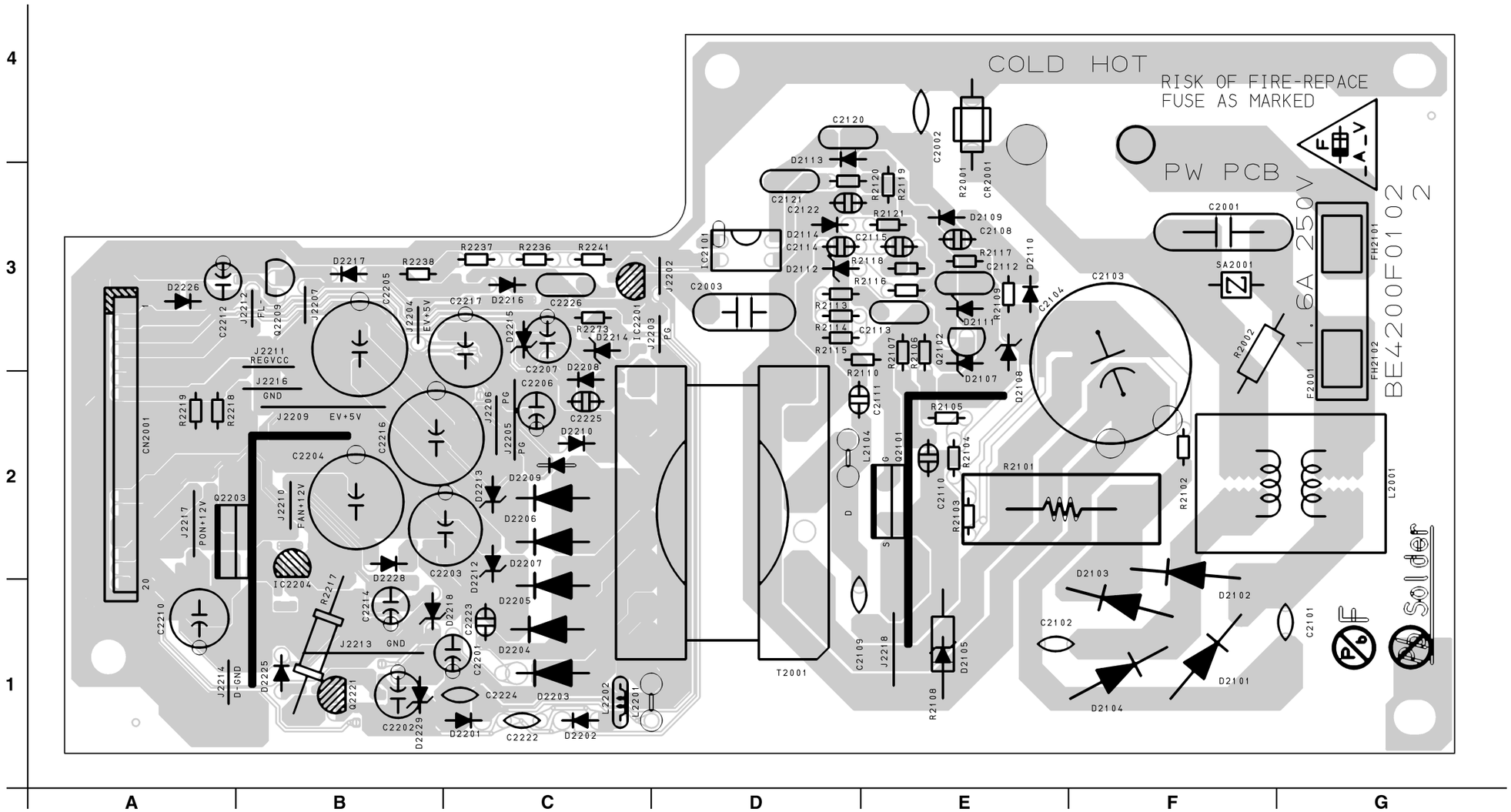
Power Supply CBA Top View

CAUTION !
For continued protection against fire hazard,
replace only with the same type fuse.
ATTENTION : Pour une protection continue les risqes
d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F2001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

Because a hot chassis ground is present in the power supply circut, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



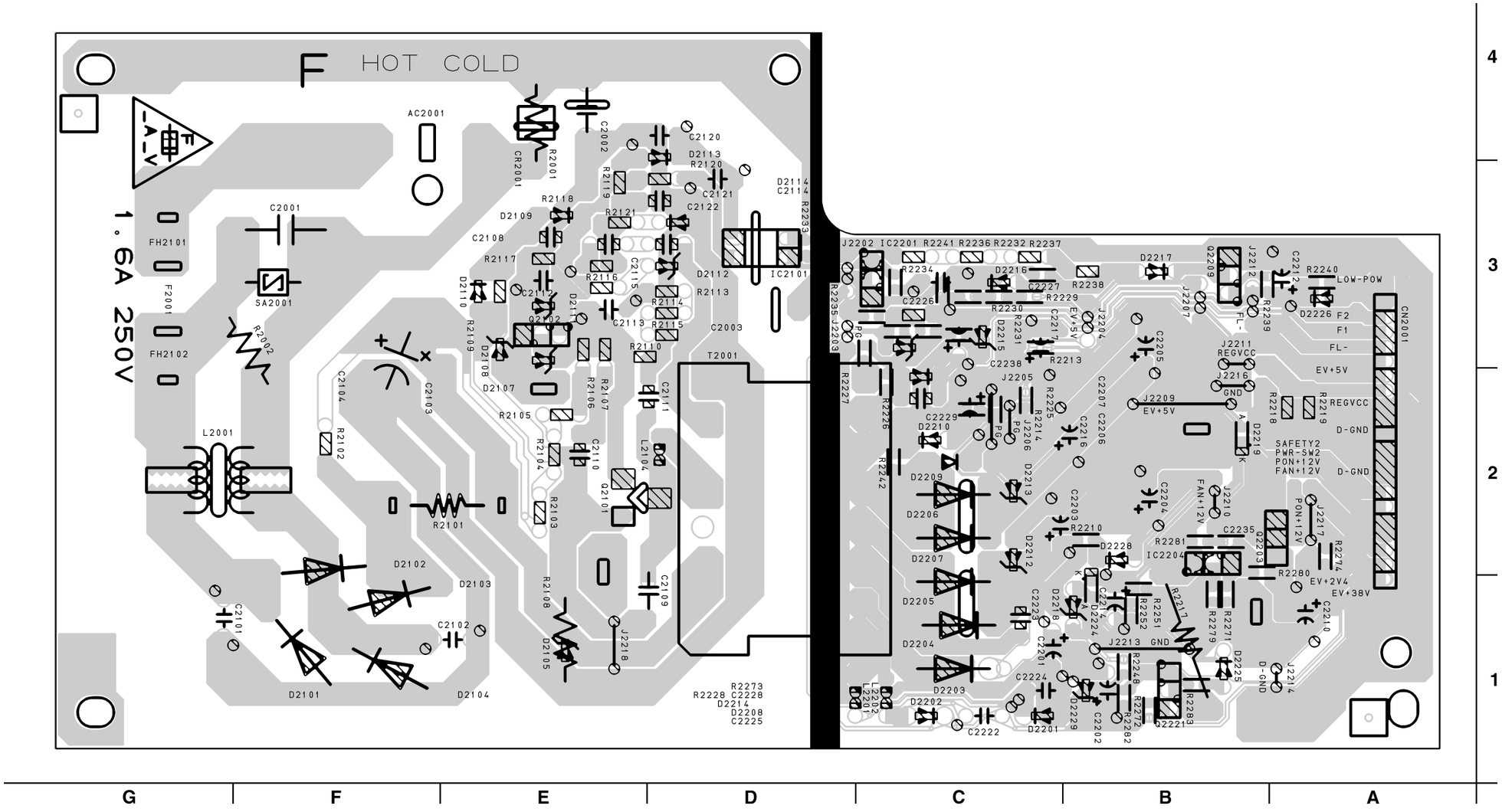
Power Supply CBA Bottom View

CAUTION !
For continued protection against fire hazard,
replace only with the same type fuse.
ATTENTION : Pour une protection continue les risqes
d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

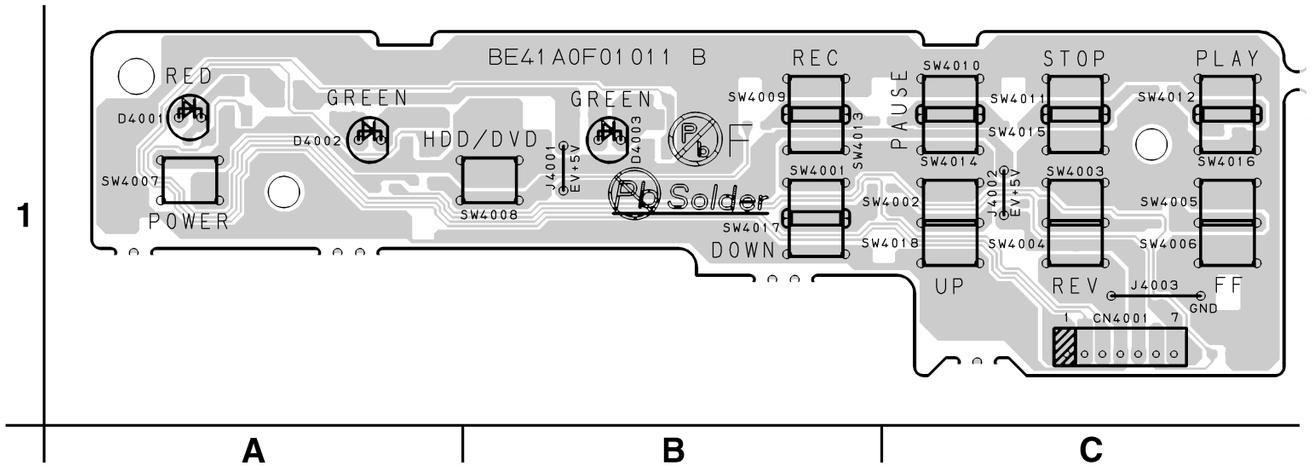
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F2001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

Because a hot chassis ground is present in the power supply circut, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

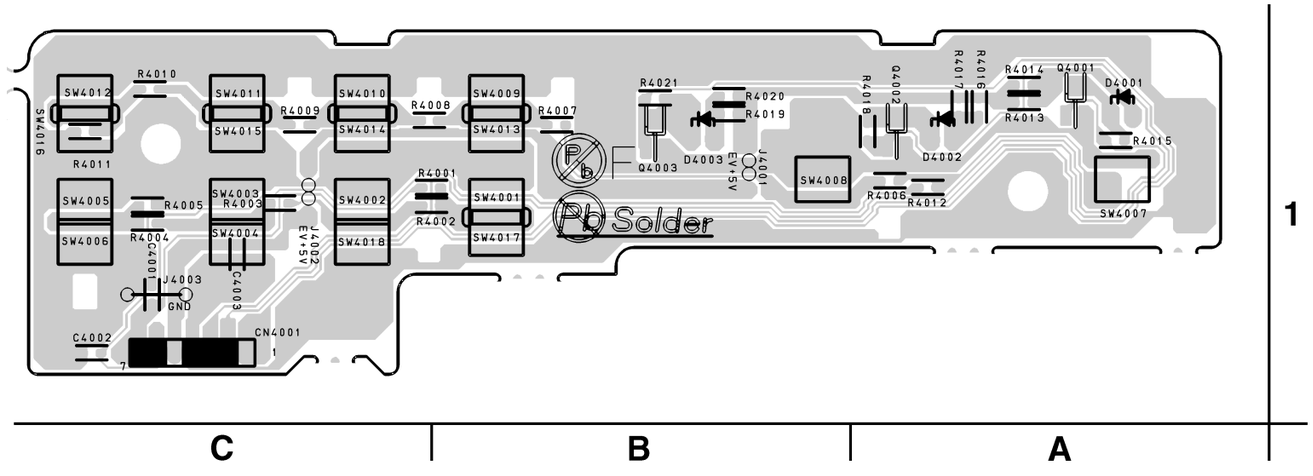
NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



SW CBA Top View

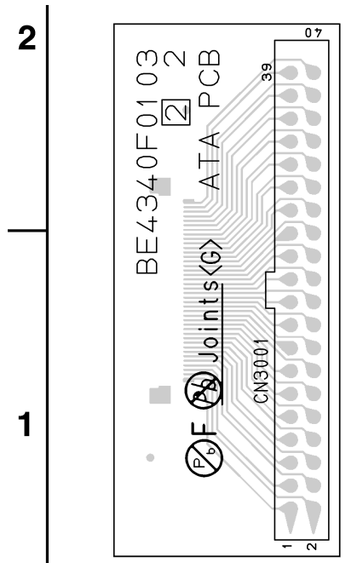


SW CBA Bottom View

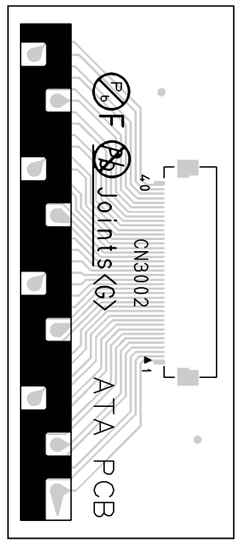


BE41A0F01011B

ATA CBA Top View

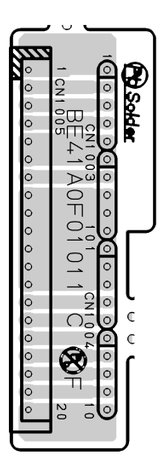


ATA CBA Bottom View

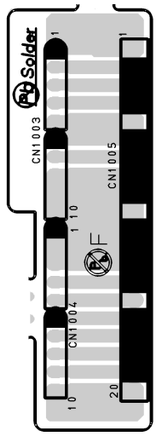


BE4340F01032

Junction CBA Top View



Junction CBA Bottom View

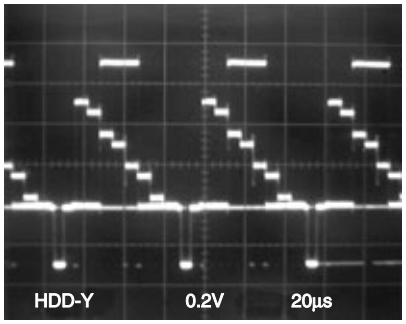


BE41A0F01011C

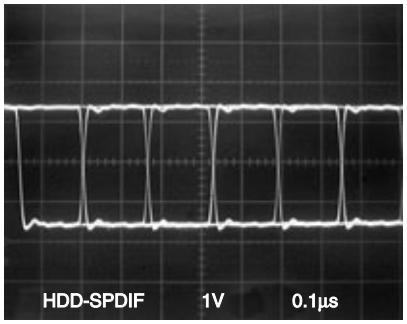
WAVEFORMS

NOTE:
Input: COLOR BAR SIGNAL (WITH 1KHz AUDIO SIGNAL)

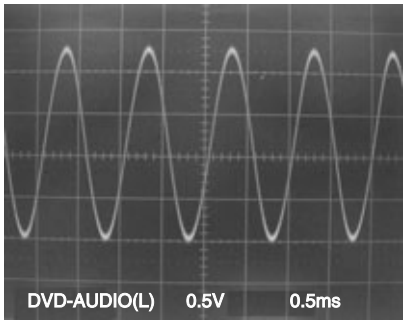
WF1 Pin 3 of CN1101



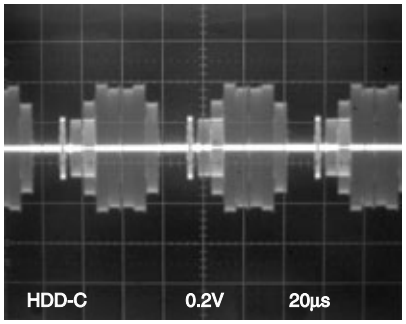
WF5 Pin 1 of CN1101



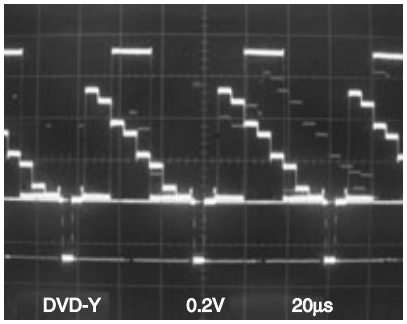
WF9 Pin 11 of CN1601



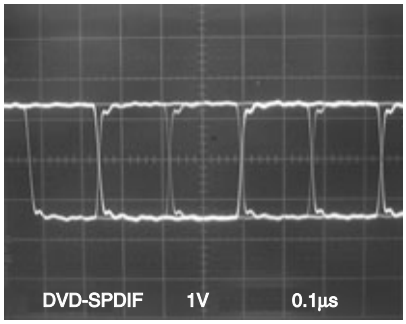
WF2 Pin 5 of CN1101



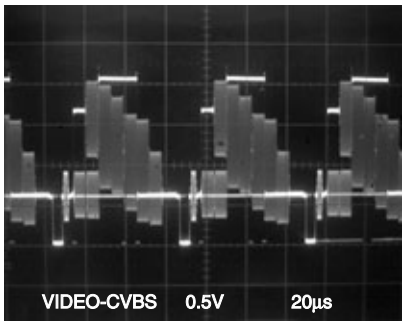
WF6 Pin 6 of CN1601



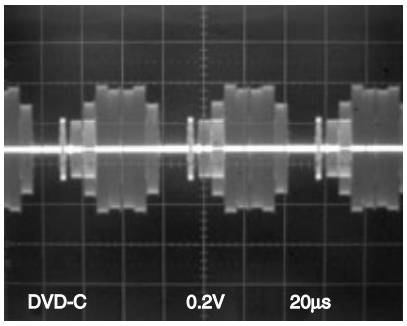
WF10 Pin 16 of CN1601



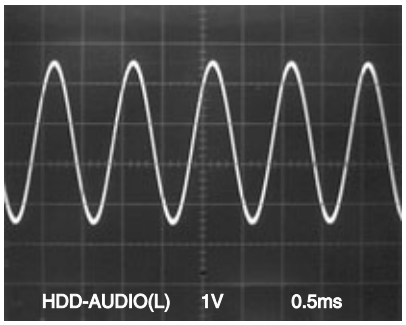
WF3 C1430 PLUS LEAD



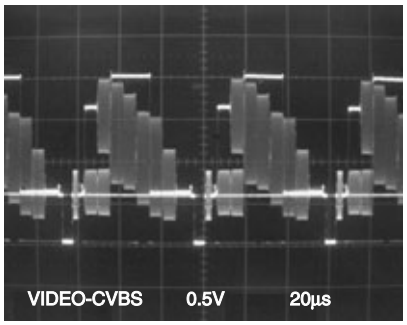
WF7 Pin 8 of CN1601



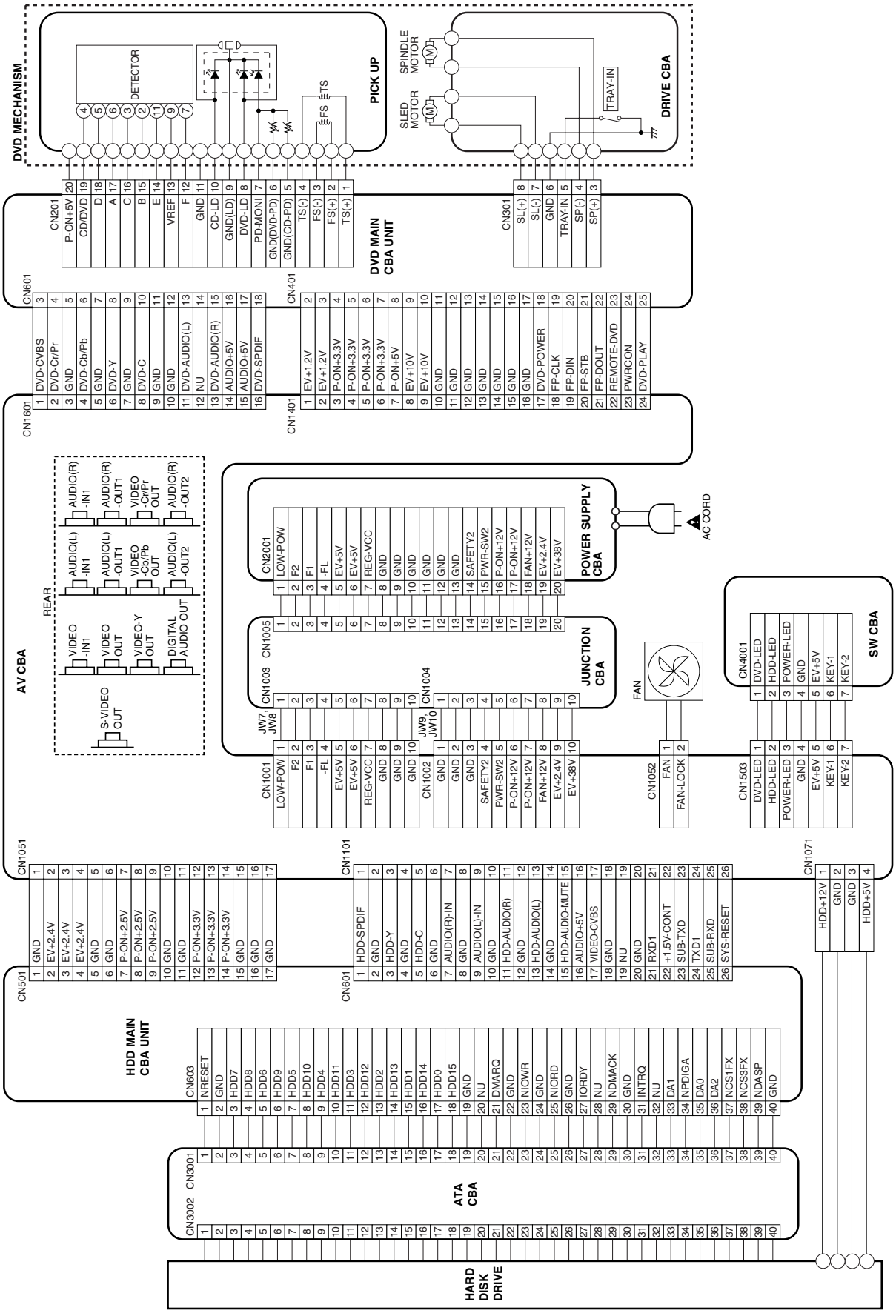
WF4 Pin 13 of CN1101



WF8 Pin 1 of CN1601

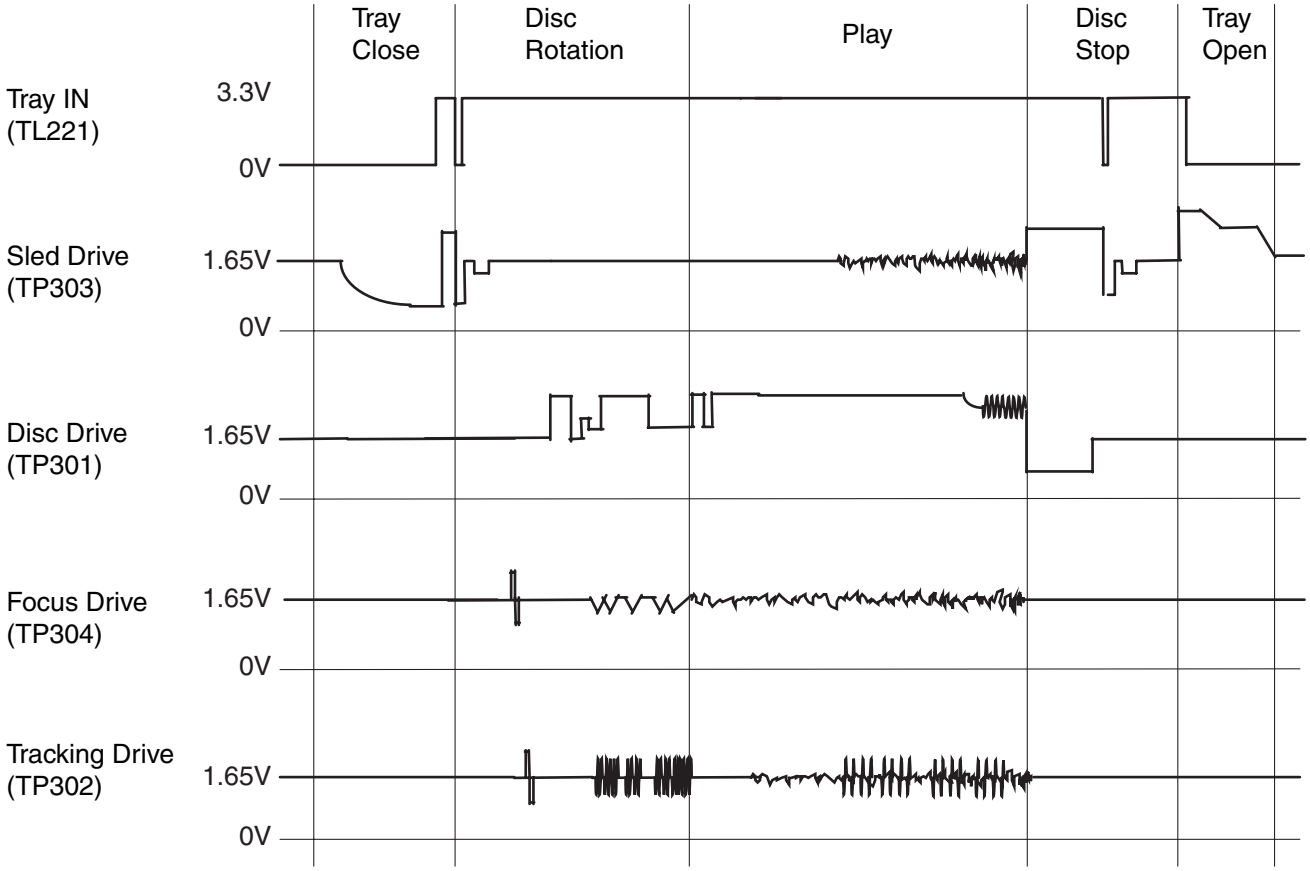


WIRING DIAGRAM



SYSTEM CONTROL TIMING CHARTS

Tray Close ~ Play / Play ~ Tray Open



IC PIN FUNCTION DESCRIPTIONS

IC1501 (SUB MICROCONTROLLER)

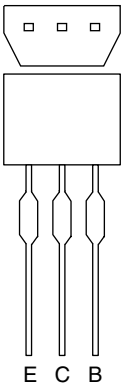
Pin No.	IN/ OUT	Signal Name	Function
1	IN	KEY-1	Front Button Detection 1
2	IN	KEY-2	Front Button Detection 2
3	IN	FAN-LOCK	Fan Failure Detection
4	IN	AFT	Tuner AFT Power Supply
5	-	NU	Not Used
6	-	EV+3.3V	A/D Converter Power Supply
7	-	VDD	Vdd
8	OUT	XOUT	Clock Output
9	IN	XIN	Clock Input
10	-	GND	GND
11	IN	XCIN	Sub Clock Input
12	OUT	XCOUT	Sub Clock Output
13	-	GND	GND
14	IN	RESET	Reset Signal
15	OUT	REMOTE	Output Terminal of Control DVD by Remote Control Code
16	OUT	DVD-PLAY	DVD Block Control
17	-	NU	Not Used
18	OUT	SUB-TXD	B/E Interface
19	IN	SUB-RXD	B/E Interface
20	-	NU	Not Used
21	-	NU	Not Used
22	OUT	SYS-RESET	B/E System Reset
23	OUT	REG-CONT	Regulator Control Signal
24	OUT	VIDEO-MUTE	Video Mute Signal
25	OUT	+1.5V-CONT	Main Power Supply Control
26	-	NU	Not Used
27	IN	REMOTE	Remote Control Sensor
28	-	NU	Not Used
29	-	NU	Not Used
30	IN	P-DOWN	Power Failure Detection
31	IN	USA/JPN	USA/JPN Mode Setting, “L”=JPN/“H”=USA
32	OUT	LOW-POW	Power Consumption Control
33	IN/ OUT	SDA	IIC BUS Control Data
34	OUT	SCL	IIC BUS Control Clock
35	-	NU	Not Used
36	-	NU	Not Used
37	OUT	HDD-AUDIO-MUTE	HDD Audio Mute
38	OUT	AUDIO-MUTE	HDD/DVD Audio Mute
39	OUT	AUDIO-SW2	Audio SW Control
40	OUT	AUDIO-SW1	Audio SW Control
41	OUT	VIDEO-SW1	Video SW Control
42	OUT	VIDEO-SW2	Video SW Control
43	OUT	VIDEO-SW3	Video SW Control
44	OUT	AVSEL	AV Output Mode Contorl
45	-	NU	Not Used
46	IN	PWRCON	Monitoring DVD PWRCON Signal
47	OUT	DVD-POWER	DVD Power Control Signal
48	OUT	FL-SDA	VFD Control
49	OUT	FL-STB	VFD Control
50	OUT	FL-SCL	VFD Control
51	-	NU	Not Used
52	OUT	PWR-SW	HDD/DVD Power Supply Control
53	OUT	FAN-CONT1	Fan Rotation Control 1
54	OUT	FAN-CONT2	Fan Rotation Control 2
55	OUT	HDD	VFD Control
56	OUT	HDD-REC	HDD-REC-LED Output Signal Control
57	OUT	TREC	VFD Control
58	OUT	DVD-LED	DVD-LED Output Signal Control
59	OUT	HDD-LED	HDD-LED Output Signal Control
60	OUT	POWER-LED	POWER-LED Output Signal Control
61	-	GND	GND

Pin No.	IN/ OUT	Signal Name	Function
62	IN	SAFETY1	Power Supply Failure Detection 1
63	IN	SAFETY2	Power Supply Failure Detection 2
64	IN	SAFETY3	Power Supply Failure Detection 3

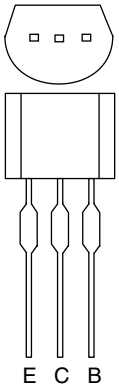
IC2301 (FRONT PANEL CONTROL)

Pin No.	IN/ OUT	Signal Name	Function
1	IN	CLK	Clock Input
2	IN	STB	Serial Interface Strobe
3	-	K1	Not Used
4	-	NU	Not Used
5	-	VSS	GND
6	-	VDD	Power Supply
7	OUT	a	Segment Output
8	OUT	b	
9	OUT	c	
10	OUT	d	
11	OUT	e	
12	IN	f	
13	IN	g	
14	OUT	h	
15	-	VEE	Pull Down Level
16	OUT	i	Segment Output
17	OUT	7G	Grid Output
18		6G	
19		5G	
20		4G	
21		3G	
22		2G	
23		1G	
24	-	VDD	Power Supply
25	-	VSS	GND
26	IN	OSC	Oscillator Input
27	Out	DOUT	Serial Data Output
28	IN	DIN	Serial Data Input

LEAD IDENTIFICATIONS

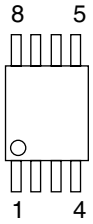


KRC103M-AT/P
KTA1267Y-AT/P
KTC3199-(GR,BL)-AT/P



2SA1015-GR(TE2 F T)
2SC2120-(Y)(TE2 F T)
KTC3203-Y-AT/P
KTC3198-GR-AT/P

RC4580IP
UTC4558



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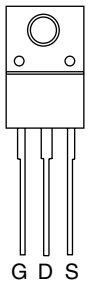

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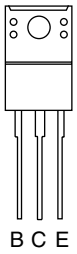

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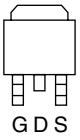
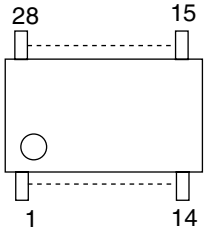


PT6313-S-TP(L)



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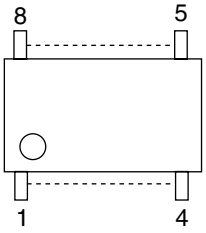
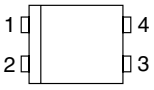
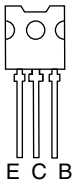


PS2561A-1(W)



1: Anode
2: Cathode
3: Emitter
4: Collector

S2Y52



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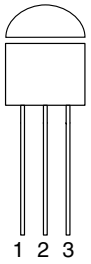
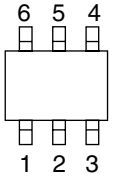


1: R
2: A
3: K

NC7SB3157P6X



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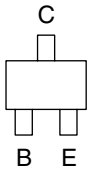

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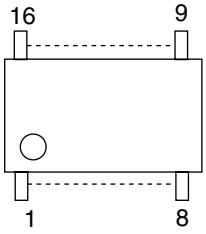

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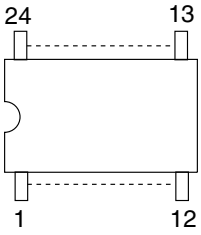

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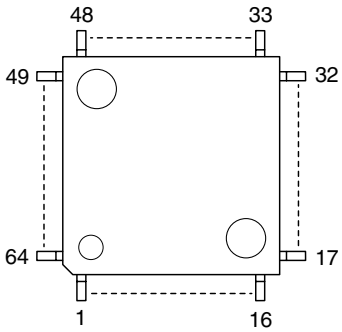

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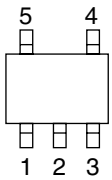
R3112N191A-TR-FA
PST3619NR



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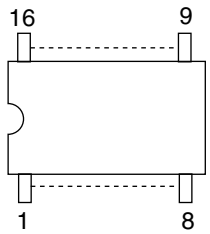
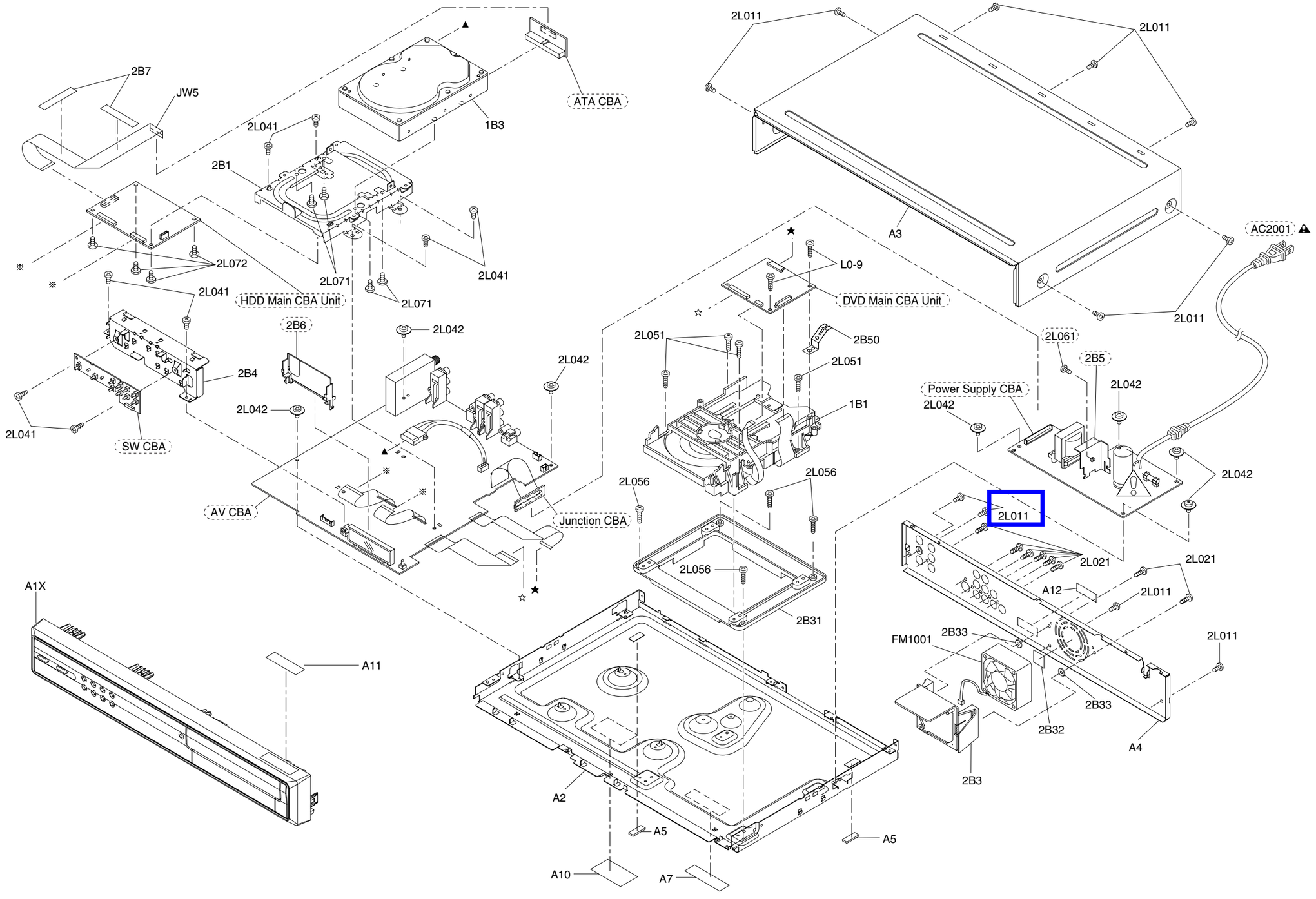


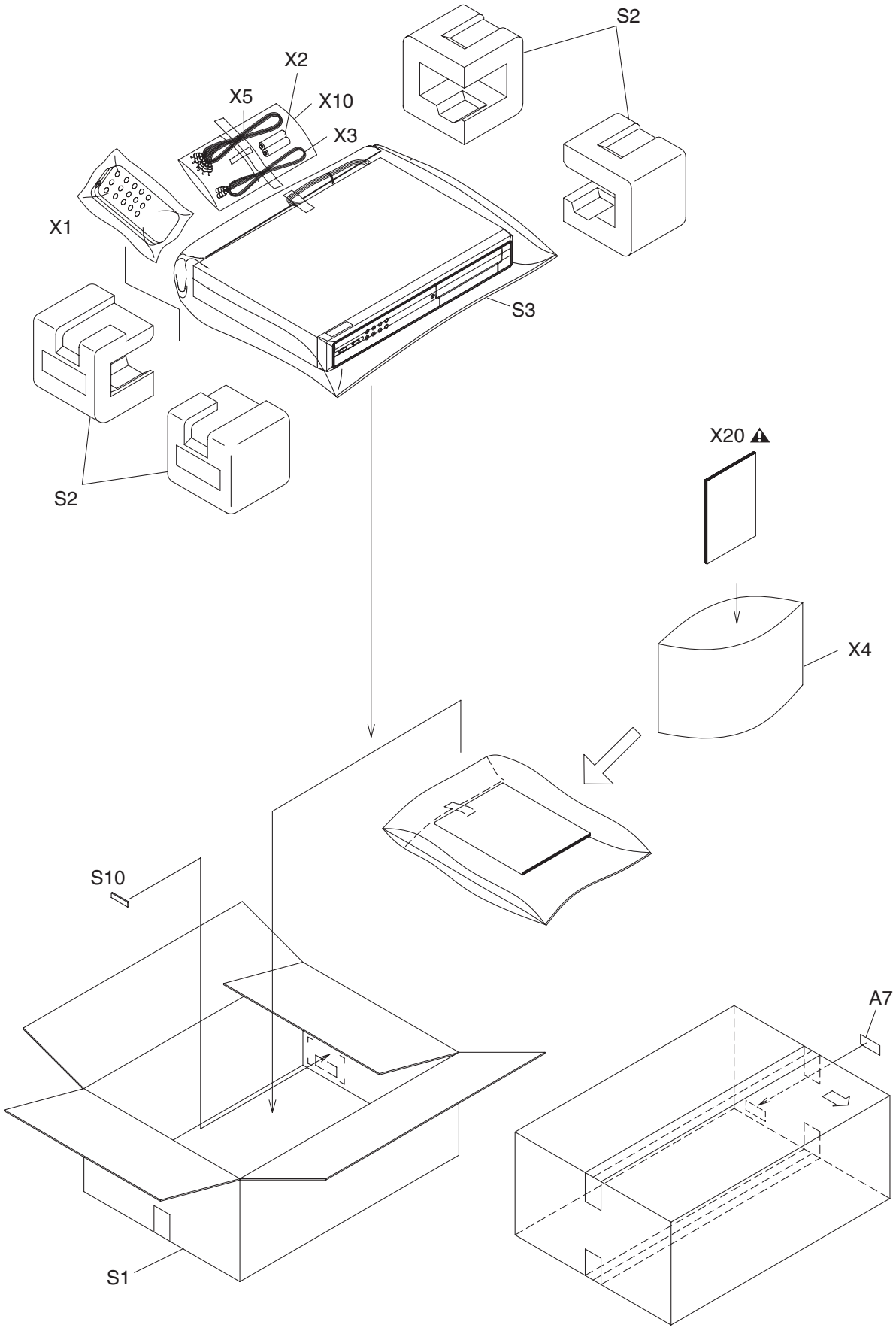
Note:
A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
S: Source
G: Gate
D: Drain

EXPLODED VIEWS

Cabinet



Packing



MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that are not assigned part numbers (---------) are not available.

Ref. No.	Description	Part No.
A1X	FRONT ASSEMBLY E41A1CD	1VM222377
A2	CHASSIS E4200UD	1VM120233
A3	TOP COVER E4200UD	1VM120234
A4	REAR PANEL E41A1CD	1VM222415
A5	FOOT K7010UA	0VM403657A
A7	LABEL BAR CODE HB400UD	----------
A10	LABEL (C2) E6700UD NEW	----------
A11	LABEL TELEPHONE NO.(SYMPHONIC) E9411UD	----------
A12	MANUFACTURE LABEL	----------
1B1	DVD MECHA E6160(FG LESS) ROHS N79F0JVM	N7PF0JVM
1B3	HARD DISK DRIVE HDS728080PLAT20	UHDD809HT001
2B1	HDD BRACKET E4100UD	1VM220761
2B3	FAN HOLDER E4200UD	1VM321120
2B4	PCB HOLDER E4200UD	1VM321121
2B7	TAPE HIMELON(HDD) E4340UD	1VM422058
2B31	RODER PEDESTAL E4100UD	1VM220987
2B32	FAN SPACER E41A0UD	1VM424127
2B33	RUBBER WASHER E41A0UD	1VM424128
2B50	M-PCB EARTH PLATE(G6) E41A0UD	1VM424221
2L011	SCREW C-TIGHT M3X5 BIND HEAD +	GBCC3050
2L021	SCREW B-TIGHT M3X8 BIND HEAD+	GBHB3080
2L041	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
2L042	SCREW S-TIGHT M3X6 WASHER HEAD+	GCJS3060
2L051	SCREW P-TIGHT M3*12 BIND+	GBJP3120
2L056	SCREW S-TIGHT M3X8 BIND HEAD+	GBJS3080
2L071	INCH SCREW 3.4X5 +	SAC3T050
2L072	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
FM1001	DC FAN MOTOR 2410RL-04W-S20-C01	MMEZR12NM005
JW5	WIRE ASSEMBLY FFC 40P/25MM/PITCH 0.5MM	WX1E41A0-105
L0-9	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
PACKING		
S1	GIFTBOX CARTON E41A1CD	1VM322891
S2	STYROFOAM E4210JD	1VM221622
S3	SET BAG E7708UA	0DM400731D
S10	LABEL EAS L0951UB	----------
ACCESSORIES		
X1	REMOTE CONTROL UNIT NB310UD	NB310UD
X2	DRY BATTERY R6P/2S	XB0M451T0001
X3	RF CABLE 2.5C-2V	WPZ0901TM002
X4	ACCESSORY BAG E5700UD	0VM415576
X5	AV CORD WPZ0102TM015	WPZ0102TM015
X10	BAG REMOCON N9430UD(90*250)	0VM411198
X20⚠	OWNERS MANUAL E41A1CD	1VMN22701

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

1. Parts that are not assigned part numbers (---------) are not available.
2. Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25% D.....±0.5% F.....±1%

G.....±2% J.....±5% K.....±10%

M.....±20% N.....±30% Z.....+80/-20%

DVD MAIN CBA UNIT

Ref. No.	Description	Part No.
	DVD MAIN CBA UNIT	N7PFTJUP

HDD MAIN CBA UNIT

Ref. No.	Description	Part No.
	HDD MAIN CBA UNIT	1VSA12717

AV ASSEMBLY

Ref. No.	Description	Part No.
	AV ASSEMBLY Consists of the following:	1VSA12398
	AV CBA (AV PCB A) SW CBA (AV PCB B) JUNCTION CBA (AV PCB C)	---------- ---------- ----------

AV CBA

Ref. No.	Description	Part No.
	AV CBA (AV PCB A) Consists of the following:	----------
	CAPACITORS	
C1015	ELECTROLYTIC CAP. 100µF/6.3V M	CE0KMASDL101
C1016	ELECTROLYTIC CAP. 100µF/6.3V M	CE0KMASDL101
C1017	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1018	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1031	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1032	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1033	ELECTROLYTIC CAP. 100µF/6.3V M H7	CE0KMASSL101
C1034	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1035	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C1041	ELECTROLYTIC CAP. 470µF/16V M	CE1CMASDL471
C1042	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASDL470
C1043	ELECTROLYTIC CAP. 100µF/6.3V M	CE0KMASDL101
C1044	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C1050	CHIP CERAMIC CAP.(1608) B K 0.1µF/25V	CHD1EK30B104
C1051	CHIP CERAMIC CAP.(1608) B K 0.1µF/25V	CHD1EK30B104
C1052	ELECTROLYTIC CAP. 100µF/16V M	CE1CMASDL101
C1071	ELECTROLYTIC CAP. 1000µF/6.3V M	CE0KMASDL102
C1072	ELECTROLYTIC CAP. 1000µF/6.3V M	CE0KMASDL102
C1074	ELECTROLYTIC CAP. 100µF/6.3V M	CE0KMASDL101
C1075	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1076	ELECTROLYTIC CAP. 100µF/6.3V M	CE0KMASDL101
C1081	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1082	ELECTROLYTIC CAP. 100µF/6.3V M	CE0KMASDL101
C1101	ELECTROLYTIC CAP. 10µF/16V M	CE1CMASDL100
C1102	ELECTROLYTIC CAP. 10µF/16V M	CE1CMASDL100
C1103	ELECTROLYTIC CAP. 10µF/16V M	CE1CMASDL100
C1104	ELECTROLYTIC CAP. 10µF/16V M H7	CE1CMASSL100
C1105	CHIP CERAMIC CAP.(1608) CH J 270pF/50V	CHD1JJ3CH271
C1106	CHIP CERAMIC CAP.(1608) CH J 270pF/50V	CHD1JJ3CH271
C1107	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C1108	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C1121	ELECTROLYTIC CAP. 10µF/16V M	CE1CMASDL100
C1122	ELECTROLYTIC CAP. 10µF/16V M	CE1CMASDL100
C1130	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C1132	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASDL470
C1133	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1134	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1140	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1150	ELECTROLYTIC CAP. 100µF/16V M	CE1CMASDL101
C1151	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C1152	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C1153	ELECTROLYTIC CAP. 10µF/16V M	CE1CMASDL100
C1154	ELECTROLYTIC CAP. 10µF/16V M	CE1CMASDL100
C1157	ELECTROLYTIC CAP. 10µF/16V M	CE1CMASDL100
C1158	ELECTROLYTIC CAP. 10µF/16V M	CE1CMASDL100
C1159	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1160	ELECTROLYTIC CAP. 220µF/16V M	CE1CMASDL221
C1161	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C1162	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1163	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1175	ELECTROLYTIC CAP. 10µF/16V M	CE1CMASDL100
C1176	ELECTROLYTIC CAP. 10µF/16V M	CE1CMASDL100
C1191	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C1210	CHIP CERAMIC CAP. CH J 15pF/50V	CHD1JJ3CH150
C1212	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1214	ELECTROLYTIC CAP. 47µF/6.3V M	CE0KMASDL470
C1303	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1313	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1314	ELECTROLYTIC CAP. 22µF/16V M	CE1CMASDL220
C1315	ELECTROLYTIC CAP. 100µF/6.3V M	CE0KMASDL101
C1316	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1334	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1338	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C1407	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C1408	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C1409	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C1417	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C1421	ELECTROLYTIC CAP. 1000µF/6.3V M	CE0KMASDL102
C1422	ELECTROLYTIC CAP. 1000µF/6.3V M	CE0KMASDL102
C1423	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C1424	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C1430	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C1431	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C1432	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1433	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C1434	CHIP CERAMIC CAP.(1608) B K 0.33µF/10V	CHD1AK30B334

Ref. No.	Description	Part No.
C1435	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1436	CHIP CERAMIC CAP.(1608) B K 0.33μF/10V	CHD1AK30B334
C1460	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1470	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1471	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1472	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C1480	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1481	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1482	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1483	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C1490	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1501	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C1502	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1503	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1506	CHIP CERAMIC CAP.(1608) CH J 22pF/50V	CHD1JJ3CH220
C1507	CHIP CERAMIC CAP. CH J 18pF/50V	CHD1JJ3CH180
C1508	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
If C1509 is 0.015μF, then IC1502 is BU4219G-TR or R3112N191A-TR-FA.		
C1509	CHIP CERAMIC CAP.(1608) B K 0.015μF/50V	CHD1JK30B153
IC1502	VOLTAGE DETECT R3112N191A-TR-FA or	QSZBA0TRC021
	RESET IC BU4219G-TR	QSZBA0TRM090
If C1509 is 0.1μF, then IC1502 is PST3619NR.		
C1509	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
IC1502	SYSTEM RESET IC PST3619NR	QSZBA0TMM151
C1510	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C1513	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C1516	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C1518	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1519	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1520	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C1521	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C1524	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C1525	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C1601	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1602	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C1603	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1604	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C1701	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C1702	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1703	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1704	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C1706	CHIP CERAMIC CAP.(1608) B K 0.033μF/50V	CHD1JK30B333
C1708	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C1709	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1712	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C1713	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C1714	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
C1715	ELECTROLYTIC CAP. 0.33μF/50V M	CE1JMASDLR33
C1716	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1718	ELECTROLYTIC CAP. 4.7μF/50V M	CE1JMASDL4R7
C1719	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C1720	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C1721	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C1722	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C1723	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C1724	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C1725	ELECTROLYTIC CAP. 3.3μF/50V M	CE1JMASDL3R3
C1726	ELECTROLYTIC CAP. 3.3μF/50V M	CE1JMASDL3R3
C1727	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1728	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C1729	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C1730	CHIP CERAMIC CAP.(1608) B K 0.033μF/50V	CHD1JK30B333
C1731	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104

Ref. No.	Description	Part No.
C1732	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1788	PCB JUMPER D0.6-P5.0	JW5.0T
C2301	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C2302	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C2303	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C2304	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C2305	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C2306	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C2307	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C2308	ELECTROLYTIC CAP. 3.3μF/50V M	CE1JMASDL3R3
C2309	ELECTROLYTIC CAP. 3.3μF/50V M	CE1JMASDL3R3
C2310	ELECTROLYTIC CAP. 3.3μF/50V M	CE1JMASDL3R3
CONNECTORS		
CN1051	WIRE ASSEMBLY FFC 17P/85MM/PITCH 1MM	WX1E41A0-002
CN1052	PH CONNECTOR TOP 2P B2B-PH-K-S (LF)(SN)	J3PHC02JG029
CN1071	WIRE ASSEMBLY PW TO HDD 4PIN / 110L	WX1E4200-006
CN1101	WIRE ASSEMBLY FFC 26P/85MM/PITCH 1MM	WX1E41A0-001
CN1401	WIRE ASSEMBLY FFC 24P/185MM/PITCH 1MM	WX1E41A0-004
CN1502	PH CONNECTOR (WHITE) TOP 4P B4B-PH-K-S(LF)	J3PHC04JG017
CN1503	242 SERIES CONNECTOR 224202107W1	J322C07TG001
CN1601	WIRE ASSEMBLY FFC 16P/185MM/PITCH 1MM	WX1E41A0-003
DIODES		
D1011	RECTIFIER DIODE 1N4005	NDQZ001N4005
D1012	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1013	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1015	SWITCHING DIODE 1SS400	QD1Z001SS400
D1016	SWITCHING DIODE 1SS400	QD1Z001SS400
D1031	ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS
D1032	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1033	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1035	SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D1036	ZENER DIODE DZ-6.8BSBT265	NDTB0DZ6R8BS
D1037	SWITCHING DIODE 1SS400	QD1Z001SS400
D1040	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1041	ZENER DIODE DZ-11BSBT265	NDTB00DZ11BS
D1042	SWITCHING DIODE 1SS400	QD1Z001SS400
D1043	SWITCHING DIODE 1SS400	QD1Z001SS400
D1051	SWITCHING DIODE 1SS400	QD1Z001SS400
D1052	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1053	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1054	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1055	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1056	ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS
D1057	SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D1068	SWITCHING DIODE 1SS400	QD1Z001SS400
D1069	PCB JUMPER D0.6-P5.0	JW5.0T
D1070	PCB JUMPER D0.6-P5.0	JW5.0T
D1071	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1072	SWITCHING DIODE 1SS400	QD1Z001SS400
D1073	SWITCHING DIODE 1SS400	QD1Z001SS400
D1074	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D1102	ZENER DIODE DZ-5.6BSBT265	NDTB0DZ5R6BS
D1502	ZENER DIODE DZ-3.0BSBT265	NDTB0DZ3R0BS
D1701	ZENER DIODE DZ-33BSBT265	NDTB00DZ33BS
ICS		
IC1011	VOLTAGE REGULATOR PQ070XF01SZH	QSZBA0SSH054
IC1012	VOLTAGE REGULATOR PQ070XF01SZH	QSZBA0SSH054
IC1037	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
IC1101	IC OP AMP UTC4558	NSZBA0S2H001
IC1102	IC OP AMP UTC4558	NSZBA0S2H001

Ref. No.	Description	Part No.
IC1103	IC OP AMP RC4580IP	NSZBA0STY173
IC1104	IC SWITCHING CD4052BNSR	NSZBA0TTY091
IC1106	IC SWITCHING CD4052BNSR	NSZBA0TTY091
IC1107	1CIRCUIT ANALOG SWITCH NC7SB3157P6X	NSZBA0TF3063
IC1301	VIDEO SWITCH MM1697AJBE	QSZBA0TMM150
IC1401	DRIVER FOR DVD MM1637XVBE	QSZBA0TMM102
IC1402	DRIVER FOR DVD MM1636XWRE	QSZBA0TMM108
IC1403	IC SWITCHING CD4052BNSR	NSZBA0TTY091
IC1501	IC(8BIT MICRO-COMPUTER) MN101C77AFG	QSZAA0RMS046
If IC1502 is BU4219G-TR or R3112N191A-TR-FA, then C1509 is 0.015μF.		
IC1502	VOLTAGE DETECT R3112N191A-TR-FA or	QSZBA0TRC021
	RESET IC BU4219G-TR	QSZBA0TRM090
C1509	CHIP CERAMIC CAP.(1608) B K 0.015μF/50V	CHD1JK30B153
If IC1502 is PST3619NR, then C1509 is 0.1μF.		
IC1502	SYSTEM RESET IC PST3619NR	QSZBA0TMM151
C1509	CHIP CERAMIC CAP.(1608) B K 0.1μF/25V	CHD1EK30B104
IC1601	REGULATOR IC(1.2V) PQ012GN01ZPH	QSZBA0TSH077
IC1701	IC MTS DECORDER AN5832SA-E1V	QSZBA0TMS003
IC2301	VFD DRIVER/CONTROLLER IC PT6313-S-TP(L)	NSZBA0TG2007
COILS		
L1041	POWER INDUCTORS TWKBNP-180K	LLC180KKV007
L1042	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L1043	PCB JUMPER D0.6-P5.0	JW5.0T
L1044	PCB JUMPER D0.6-P5.0	JW5.0T
L1045	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L1053	CHOKE COIL 22μH-K	LLBD00PKV021
L1054	CHOKE COIL 22μH-K	LLBD00PKV021
L1071	CHOKE COIL 22μH-K	LLBD00PKV021
L1101	INDUCTOR(0.47μH K) LAP02TAR47K	LLAXKATTUR47
L1102	INDUCTOR(100μH K) LAP02TA101K	LLAXKATTU101
L1103	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L1301	PCB JUMPER D0.6-P5.0	JW5.0T
L1490	PCB JUMPER D0.6-P5.0	JW5.0T
L1701	CHOKE COIL 22μH-K	LLBD00PKV021
L1704	PCB JUMPER D0.6-P5.0	JW5.0T
L2301	INDUCTOR(100μH K) LAP02TA101K	LLAXKATTU101
TRANSISTORS		
Q1011	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q1031	TRANSISTOR 2SA1015-GR(TE2 F T)	QQS12SA1015F
Q1032	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1034	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q1036	TRANSISTOR(PB FREE) KTC2026-Y/P	NQEYKTC2026P
Q1037	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1041	TRANSISTOR KTC3198-GR-AT/P	NQS4KTC3198P
Q1042	TRANSISTOR KTC3203-Y-AT/P	NQSYKTC3203P
Q1051	TRANSISTOR KTA1267-Y-AT/P	NQSYKTA1267P
Q1052	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q1053	TRANSISTOR KTA1267-Y-AT/P	NQSYKTA1267P
Q1054	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q1055	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q1056	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q1057	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q1071	TRANSISTOR S2Y52(FUNAI Q H)	QQWZ00S2Y52Q
Q1072	TRANSISTOR KTC3203-Y-AT/P	NQSYKTC3203P
Q1101	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1102	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1103	TRANSISTOR KTA1267-Y-AT/P	NQSYKTA1267P
Q1104	TRANSISTOR KTC3198-GR-AT/P	NQS4KTC3198P
Q1105	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1111	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P

Ref. No.	Description	Part No.
Q1112	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1120	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1304	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1305	TRANSISTOR KTA1267-Y-AT/P	NQSYKTA1267P
Q1460	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1501	TRANSISTOR KTA1267-Y-AT/P	NQSYKTA1267P
Q1502	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
RESISTORS		
R1011	PCB JUMPER D0.6-P5.0	JW5.0T
R1012	CHIP RES. 1/10W J 2.7k Ω	RRXAJR5Z0272
R1013	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1014	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1015	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R1016	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R1017	CHIP RES. 1/10W F 15k Ω	RRXAFR5H1502
R1018	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R1019	CHIP RES. 1/10W F 1.8k Ω	RRXAFR5H1801
R1020	CHIP RES. 1/10W F 120 Ω	RRXAFR5H1200
R1021	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R1022	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1024	CARBON RES. 1/4W J 6.8 Ω	RCX4JATZ06R8
R1026	PCB JUMPER D0.6-P5.0	JW5.0T
R1029	PCB JUMPER D0.6-P5.0	JW5.0T
R1030	PCB JUMPER D0.6-P5.0	JW5.0T
R1035	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R1036	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1037	CHIP RES. 1/10W J 220k Ω	RRXAJR5Z0224
R1038	CARBON RES. 1/4W J 2k Ω	RCX4JATZ0202
R1039	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1040	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1041	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R1042	PCB JUMPER D0.6-P5.0	JW5.0T
R1043	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R1044	CHIP RES. 1/10W F 100 Ω	RRXAFR5H1000
R1045	CHIP RES. 1/10W F 1.5k Ω	RRXAFR5H1501
R1046	CHIP RES. 1/10W F 4.7k Ω	RRXAFR5H4701
R1047	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1048	CARBON RES. RD1/2S101JTA	RCX2JATZ0101
R1049	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R1051	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1052	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1053	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R1054	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R1055	CARBON RES. 1/4W J 12 Ω	RCX4JATZ0120
R1056	METAL OXIDE FILM RES. 2W J 100 Ω	RN02101ZU001
R1057	CARBON RES. 1/4W J 10 Ω	RCX4JATZ0100
R1058	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1060	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1062	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R1071	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1072	METAL OXIDE FILM RES. 2W J 82 Ω	RN02820ZU001
R1073	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1101	CHIP RES. 1/10W F 8.2k Ω	RRXAFR5H8201
R1102	CHIP RES. 1/10W F 8.2k Ω	RRXAFR5H8201
R1105	CHIP RES. 1/10W F 8.2k Ω	RRXAFR5H8201
R1106	CHIP RES. 1/10W F 8.2k Ω	RRXAFR5H8201
R1107	CHIP RES. 1/10W J 13k Ω	RRXAJR5Z0133
R1108	CHIP RES. 1/10W F 13k Ω	RRXAFR5H1302
R1109	CHIP RES. 1/10W F 13k Ω	RRXAFR5H1302
R1110	CHIP RES. 1/10W J 13k Ω	RRXAJR5Z0133
R1121	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1122	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104

Ref. No.	Description	Part No.
R1123	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R1124	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R1125	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1126	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1127	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1128	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1129	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1131	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1134	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R1135	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R1136	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1137	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1140	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1141	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1142	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1150	CARBON RES. 1/4W J 27 Ω	RCX4JATZ0270
R1151	CHIP RES. 1/10W F 33.0k Ω	RRXAFR5H3302
R1152	CHIP RES. 1/10W F 33.0k Ω	RRXAFR5H3302
R1155	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R1156	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R1157	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R1158	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R1159	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R1160	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R1161	CHIP RES. 1/10W F 560 k Ω	RRXAFR5H5603
R1162	CHIP RES. 1/10W F 560 k Ω	RRXAFR5H5603
R1163	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R1164	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1173	CHIP RES. 1/10W J 180k Ω	RRXAJR5Z0184
R1174	CHIP RES. 1/10W J 180k Ω	RRXAJR5Z0184
R1191	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1192	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1193	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1194	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1195	CHIP RES. 1/10W F 68k Ω	RRXAFR5H6802
R1196	CHIP RES. 1/10W F 68k Ω	RRXAFR5H6802
R1199	CHIP RES. 1/10W F 62k Ω	RRXAFR5H6202
R1200	CHIP RES. 1/10W F 62k Ω	RRXAFR5H6202
R1201	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R1202	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R1205	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R1206	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R1207	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1211	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1212	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R1213	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1214	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1215	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1217	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1304	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1328	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R1329	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1330	CHIP RES. 1/10W J 820 Ω	RRXAJR5Z0821
R1332	CHIP RES. 1/10W J 910 Ω	RRXAJR5Z0911
R1407	CHIP RES. 1/10W F 160 Ω	RRXAFR5H1600
R1408	CHIP RES.(1608) 1/10W F 75 Ω	RRXAFR5H0750
R1409	CHIP RES.(1608) 1/10W F 75 Ω	RRXAFR5H0750
R1420	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1421	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1422	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1423	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1424	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1430	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750

Ref. No.	Description	Part No.
R1431	CHIP RES. 1/10W F 200 Ω	RRXAFR5H2000
R1432	CHIP RES.(1608) 1/10W F 240 Ω	RRXAFR5H0241
R1433	CHIP RES. 1/10W F 160 Ω	RRXAFR5H1600
R1434	CHIP RES. 1/10W F 180 Ω	RRXAFR5H1800
R1435	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R1436	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R1460	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1461	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1501	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R1502	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R1505	CHIP RES. 1/10W J 820k Ω	RRXAJR5Z0824
R1506	CHIP RES. 1/10W J 470k Ω	RRXAJR5Z0474
R1507	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R1508	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1511	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1512	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1513	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R1515	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R1516	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1519	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R1520	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1525	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1526	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1527	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1529	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1533	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1534	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1535	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1536	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1537	CHIP RES. 1/10W J 120 Ω	RRXAJR5Z0121
R1538	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1539	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1541	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R1542	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R1545	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R1546	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1547	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1552	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1555	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R1556	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R1557	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R1558	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1559	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1563	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1581	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1583	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1585	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1586	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1587	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1588	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1590	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R1594	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1595	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1596	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1600	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1604	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1605	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R1606	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1607	CHIP RES. 1/10W J 300 Ω	RRXAJR5Z0301
R1705	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1710	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R1711	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R1712	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332

Ref. No.	Description	Part No.
R1713	CHIP RES. 1/10W J 180k Ω	RRXAJR5Z0184
R2301	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R2302	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R2303	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R2304	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R2305	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R2306	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R2307	CHIP RES. 1/10W J 68k Ω	RRXAJR5Z0683
R2310	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2311	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2312	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
SW1502	TACT SWITCH KSM0614B	SST0101HH013
2B6	FL HOLDER E6700UD	1VM320515A
FL2302	FL 7-BT-308NY	TVFD1C0FT054
JK2106	RCA JACK 3PIN MSD-243V-07 NI FE LF	JXRL030LY124
JK2201	RCA JACK 3PIN MSD-243V-07 NI FE LF	JXRL030LY124
JK2202	S TYPE JACK MDC-050V-2.4 LF(B110	JXEL040LY003
JK2203	RCA JACK 3PIN MSD-243V-18 NI FE LF	JXRL030LY132
JK2205	PIN JACK 2P MSD-242V-01 NI FE LF	JXRL020LY123
JK2206	RCA JACK(BLACK) MSP-251V-01 NI FE LF	JXRL010LY125
JP1095	PCB JUMPER D0.6-P7.5	JW7.5T
JP1201	PCB JUMPER D0.6-P5.0	JW5.0T
JP1402	PCB JUMPER D0.6-P5.0	JW5.0T
JP1404	PCB JUMPER D0.6-P5.0	JW5.0T
JP1407	PCB JUMPER D0.6-P5.0	JW5.0T
JP1410	PCB JUMPER D0.6-P6.0	JW6.0T
RE2301	REMOTE RECEIVER MIM-93M6DKF	USESJRSUNT01
TU1701	TUNER UNIT VJ025AF	UTUNNTUSP029
X1501	CERAMIC RESONETOR CSTLS8M00G56-B0	FY0805PMR002
X1502	XTAL 32.768kHz(+10/-20PPM	FXC323LLN001

SW CBA

Ref. No.	Description	Part No.
	SW CBA (AV PCB B) Consists of the following:	----------
	CAPACITOR	
C4003	CHIP RES. 1/10W J 620 Ω	RRXAJR5Z0621
	CONNECTOR	
CN4001	242 SERIES CONNECTOR TUC-P07X-B1 WHT ST	JCTUB07TG002
	DIODES	
D4001	LED(RED) 204HD/E	NPQZ00204HDE
D4002	LED(GREEN) 204-10GD/S957	NPQZ10GDS957
D4003	LED(GREEN) 204-10GD/S957	NPQZ10GDS957
	TRANSISTORS	
Q4001	TRANSISTOR KRC102S-RTK/P	NQ1ZKRC102SP
Q4002	TRANSISTOR KRC102S-RTK/P	NQ1ZKRC102SP
Q4003	TRANSISTOR KRC102S-RTK/P	NQ1ZKRC102SP
	RESISTORS	
R4001	CHIP RES. 1/10W J 360 Ω	RRXAJR5Z0361
R4002	CHIP RES. 1/10W J 620 Ω	RRXAJR5Z0621
R4003	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4004	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4006	CHIP RES. 1/10W J 360 Ω	RRXAJR5Z0361
R4007	CHIP RES. 1/10W J 620 Ω	RRXAJR5Z0621
R4008	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R4009	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R4010	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R4012	CHIP RES. 1/10W J 300 Ω	RRXAJR5Z0301
R4013	CHIP RES. 1/10W J 300 Ω	RRXAJR5Z0301
R4014	CHIP RES. 1/10W J 300 Ω	RRXAJR5Z0301
R4016	CHIP RES. 1/10W J 300 Ω	RRXAJR5Z0301
R4017	CHIP RES. 1/10W J 300 Ω	RRXAJR5Z0301
R4019	CHIP RES. 1/10W J 300 Ω	RRXAJR5Z0301
R4020	CHIP RES. 1/10W J 300 Ω	RRXAJR5Z0301
	SWITCHES	
SW4001	TACT SWITCH KSM0614B	SST0101HH013
SW4002	TACT SWITCH KSM0614B	SST0101HH013
SW4003	TACT SWITCH KSM0614B	SST0101HH013
SW4005	TACT SWITCH KSM0614B	SST0101HH013
SW4007	TACT SWITCH KSM0614B	SST0101HH013
SW4008	TACT SWITCH KSM0614B	SST0101HH013
SW4009	TACT SWITCH KSM0614B	SST0101HH013
SW4010	TACT SWITCH KSM0614B	SST0101HH013
SW4011	TACT SWITCH KSM0614B	SST0101HH013
SW4012	TACT SWITCH KSM0614B	SST0101HH013

JUNCTION CBA

Ref. No.	Description	Part No.
	JUNCTION CBA (AV PCB C) Consists of the following:	----------
	CONNECTOR	
CN1005	242 SERIES CONNECTOR TUC-P20X-B1 WHT ST	JCTUB20TG002
	MISCELLANEOUS	
JW7	WIRE ASSEMBLY AV TO PW 5PIN / 88L	WX1E4200-007
JW8	WIRE ASSEMBLY AV TO PW 5PIN / 88L	WX1E4200-007
JW9	WIRE ASSEMBLY AV TO PW 5PIN / 88L	WX1E4200-007
JW10	WIRE ASSEMBLY AV TO PW 5PIN / 88L	WX1E4200-007

POWER SUPPLY CBA

Ref. No.	Description	Part No.
	POWER SUPPLY CBA Consists of the following:	1VSA12649
	CAPACITORS	
C2001⚠	LINE ACROSS CAP. 0.1μF/275V	CT2E104DC016
C2002⚠	SAFETY CAP. 3300pF/250V	CCD2EMA0E332
C2101	CERAMIC CAP. F Z 0.01μF/500V	CCD2JZP0F103
C2102	CERAMIC CAP. F Z 0.01μF/500V	CCD2JZP0F103
C2103	ELECTROLYTIC CAP. 470μF/200V	CA2D4710J002
C2109	CERAMIC CAP. HR 1000pF/2KV	CCD3DKP0R102
C2112	FILM CAP.(P) 0.082μF/50V J	CA1J823MS029
C2113	FILM CAP.(P) 0.01μF/50V J	CA1J103MS029
C2114	PCB JUMPER D0.6-P5.0	JW5.0T
C2115	PCB JUMPER D0.6-P5.0	JW5.0T
C2121	FILM CAP.(P) 0.0068μF/50V J	CA1J682MS029
C2201	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASDL220
C2202	ELECTROLYTIC CAP. 47μF/50V M	CE1JMASDL470
C2203	ELECTROLYTIC CAP. 3300μF/6.3V SL	CE0KMZADL332
C2204	ELECTROLYTIC CAP. 2200μF/25V SL	CE1EMZADL222
C2205	ELECTROLYTIC CAP 3300μF/10V SL	CE1AMZADL332
C2206	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C2207	ELECTROLYTIC CAP. 100μF/16V M	CE1CMASDL101
C2210	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C2212	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C2214	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C2216	ELECTROLYTIC CAP 3300μF/10V SL	CE1AMZADL332
C2217	ELECTROLYTIC CAP. 2200μF/10V SL	CE1AMZADL222
C2226	FILM CAP.(P) 0.0068μF/50V J	CA1J682MS029
C2235	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C2238	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103

Ref. No.	Description	Part No.
CONNECTOR		
CN2001	242 SERIES CONNECTOR 224202120W1	J322C20TG001
DIODES		
D2101	DIODE 1N5397-B	NDLZ001N5397
D2102	DIODE 1N5397-B	NDLZ001N5397
D2103	DIODE 1N5397-B	NDLZ001N5397
D2104	DIODE 1N5397-B	NDLZ001N5397
D2107	ZENER DIODE DZ-22BSBT265	NDTB00DZ22BS
D2108	ZENER DIODE DZ-33BSBT265	NDTB00DZ33BS
D2109	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D2110	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D2111	ZENER DIODE DZ-33BSBT265	NDTB00DZ33BS
D2112	ZENER DIODE DZ-5.6BSBT265	NDTB0DZ5R6BS
D2113	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D2201	RECTIFIER DIODE BA157	NDQZ000BA157
D2202	RECTIFIER DIODE BA157	NDQZ000BA157
D2203	SCHOTTKY BARRIER DIODE SB340	NDQZ000SB340
D2204	SCHOTTKY BARRIER DIODE SB390	NDQZ000SB390
D2205	SCHOTTKY BARRIER DIODE SB390	NDQZ000SB390
D2206	SCHOTTKY BARRIER DIODE SB340	NDQZ000SB340
D2207	SCHOTTKY BARRIER DIODE SB340	NDQZ000SB340
D2208	RECTIFIER DIODE BA157	NDQZ000BA157
D2209	SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D2210	RECTIFIER DIODE BA157	NDQZ000BA157
D2212	ZENER DIODE DZ-16BSBT265	NDTB00DZ16BS
D2213	ZENER DIODE DZ-6.8BSBT265	NDTB0DZ6R8BS
D2215	ZENER DIODE DZ-20BSBT265	NDTB00DZ20BS
D2216	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D2217	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D2218	ZENER DIODE DZ-39BSBT265	NDTB00DZ39BS
D2219	SWITCHING DIODE 1SS400	QD1Z001SS400
D2224	SWITCHING DIODE 1SS400	QD1Z001SS400
D2225	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D2226	SWITCHING DIODE 1N4148M	NDTZ01N4148M
ICS		
IC2101⚠	PHOTOCOUPLER PS2561A-1(W)	QPEWPS2561A1
IC2201	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
IC2204	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
COILS		
L2001⚠	LINE FILTER TLF14CB 183 0R5	LLBG00ZTU019
L2104	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
L2201	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
L2202	PCB JUMPER D0.6-P5.0	JW5.0T
TRANSISTORS		
Q2101⚠	MOS FET 2SK3561	QFWZ02SK3561
Q2102	TRANSISTOR 2SC2120-Y(TE2 F T)	QQSY2SC2120F
Q2203	TRANSISTOR(PB FREE) KTC2026-Y/P	NQEYKTC2026P
Q2209	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q2221	TRANSISTOR 2SA1015-GR(TE2 F T)	QQS12SA1015F
RESISTORS		
R2001⚠	GLASS GLAZE RES. 1/2W J 3.3M Ω	RXX2JZLZ0335
R2101	CEMENT RESISTOR 5W J 1.2 Ω H 10MM	RW051R2PAK10
R2103	CARBON RES. 1/4W J 750k Ω	RCX4JATZ0754
R2104	CARBON RES. 1/4W J 750k Ω	RCX4JATZ0754
R2105	CARBON RES. 1/4W J 750k Ω	RCX4JATZ0754
R2106	CARBON RES. 1/4W J 750k Ω	RCX4JATZ0754
R2108	METAL OXIDE FILM RES. 2W J 0.68 Ω	RN02R68ZU001
R2109	CARBON RES. 1/6W J 150 Ω	RCX6JATZ0151
R2113	CARBON RES. 1/6W J 220 Ω	RCX6JATZ0221
R2114	CARBON RES. 1/6W J 220 Ω	RCX6JATZ0221
R2115	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R2116	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R2117	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R2118	PCB JUMPER D0.6-P5.0	JW5.0T
R2119	CARBON RES. 1/6W J 180 Ω	RCX6JATZ0181
R2120	PCB JUMPER D0.6-P5.0	JW5.0T
R2213	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R2217	METAL OXIDE FILM RES. 3W J 1.0k Ω	RN03102ZU001
R2218	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2219	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2225	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R2226	CHIP RES.(1608) RLC16KR470J	RRX8R47KE001
R2227	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R2228	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R2229	CHIP RES. 1/10W F 200 Ω	RRXAFR5H2000
R2230	CHIP RES. 1/10W F 1.0k Ω	RRXAFR5H1001
R2231	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R2232	CHIP RES. 1/10W F 1.0k Ω	RRXAFR5H1001
R2233	CHIP RES. 1/10W J 390 Ω	RRXAJR5Z0391
R2234	CHIP RES. 1/10W J 680 Ω	RRXAJR5Z0681
R2235	CHIP RES. 1/10W F 2k Ω	RRXAFR5H2001
R2236	CARBON RES. 1/4W J 1.1k Ω	RCX4JATZ0112
R2237	CARBON RES. 1/4W J 1.1k Ω	RCX4JATZ0112
R2238	CARBON RES. 1/4W J 1.1k Ω	RCX4JATZ0112
R2239	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R2240	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R2241	CARBON RES. 1/4W J 1.1k Ω	RCX4JATZ0112
R2242	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R2248	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R2251	CHIP RES. 1/10W J 470k Ω	RRXAJR5Z0474
R2252	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R2271	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R2272	CHIP RES. 1/10W J 10 Ω	RRXAJR5Z0100
R2273	CARBON RES. 1/4W J 3.6k Ω	RCX4JATZ0362
R2274	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R2279	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R2280	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R2281	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R2282	CHIP RES. 1/10W J 220k Ω	RRXAJR5Z0224
R2283	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
MISCELLANEOUS		
2B5	POWER HEATSINK E4340UD	1VM422057
2L061	SCREW S-TIGHT M3X8 BIND HEAD+	GBJS3080
AC2001⚠	AC CORD PB8B2F9110A-055	WAC0162LW004
F2001⚠	FUSE (1.6A/250V) SIC 1.6A 250V (ROHS)	PEG20C0W3001
FH2101	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
FH2102	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
T2001	SWITCHING TRANS 6703	LTT3PC0KT001

ATA CBA

Ref. No.	Description	Part No.
	ATA CBA Consists of the following:	1VSA12418
CONNECTORS		
CN3001	IDC SOCKET 40PIN VT YKF43-0025	JCYKC40JC002
CN3002	FPC/FFC CONNECTOR(40PIN) FH12-40S-0.5SH(89)	JCFHD40HQ007

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